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Alice studies natural history

in the school of Lewis Carroll

"GO ON WITH your list of butterflies," said the Red Queen.

"Well, there's the Small Copper," Alice began.

"Over there," said the Queen, "you'll see a Large Copper — one of the largest in the Force, in fact."

"What does he live on?" Alice asked.

"He'll live on to a ripe old age if he goes on drinking a Guinness a day," said the Queen.

"And there's the Red Admiral," Alice went on, "it's really Red Admirable, you know." She was rather proud of knowing this.

"In my hand," said the Queen, "you will see a Head Admirable. It has an entirely natural history—it is made of nothing but barley, hops, and yeast."

"And what does *it* live on?"

"It lives on top of a Guinness."

"Supposing someone drinks the Guinness?"

"Then the Head would be consumed with joy."

"But that must happen very often," Alice remarked thoughtfully.

"It always happens," said the Queen.

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Volume CCXVI No. 2816 The SPHERE, London, January 30, 1954

The SPHERE
with which is incorporated THE GRAPHIC

THE FOREIGN MINISTERS' CONFERENCE IN BERLIN—THE WESTERN REPRESENTATIVES MEET FOR LAST-MINUTE DISCUSSIONS BEFORE THE TALKS BEGIN : From left, the American, French and British Foreign Ministers, Mr. John Foster Dulles, M. Georges Bidault and Mr. Anthony Eden. They are seen together at the residence of the French High Commissioner in Berlin during one of their preliminary talks before they joined Mr. Molotov in the Four-Power Conference which began last Monday.

Under a picture of "The Last Judgement" painted on the roof of the hall of the Allied Control Council Building in Berlin, the four Foreign Ministers met last Monday for the first time since 1949. The United States, British and French Ministers had arrived in Berlin some days before to engage in preliminary discussions among themselves. Mr. Molotov, the Soviet Foreign Minister, arrived alone and almost secretly. The subjects which the Foreign Ministers are discussing are so numerous and so contentious that it may take many weeks to come to an agreement on even a few points. Chief among the problems that are being considered are the German and Austrian Peace Treaties, and all-German elections and German unity. Also under discussion are the claims of Communist China to be admitted to the United Nations, and even to join the Big Four in Berlin. Mr. Eden, before he left for Berlin, admitted that spectacular results from the Conference were not possible. But he expressed the hope that a spirit of compromise might prevail on both sides, so that the present tension might be eased. (See also pages 140-41).

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TAY SALMON SEASON OPENS

ANGLERS, PRECEDED BY A PIPER, MARCH THROUGH THE PERTHSHIRE VILLAGE OF KENMORE EN ROUTE TO THE BOATS ON LOCH TAY FOR THE OPENING OF THE SALMON ROD FISHING SEASON: A high wind and fierce rain squalls prevented much activity on the first day, although prospects at first were good. Rain also caused flooding at many places along the river, thus preventing fishermen from putting out. At the inauguration in 1951, anglers had to break the ice at one point before they could begin operations.

THE TRADITIONAL INAUGURATION ON TAYSIDE: While the piper prepares to play the boat into the water, Mrs. Dickie, of Killin, breaks a bottle of whisky over the bows.

A HELPING HAND FOR THE DAUGHTER OF THE EARL AND COUNTESS OF MANSFIELD: Gillie James Penney seen fixing a minnow for Lady Malvina Murray before setting out for her first cast of the season on the Tay.

RATES OF SUBSCRIPTION TO "THE SPHERE."

Orders for subscription to THE SPHERE *for dispatch to addresses at home and overseas can be sent direct to the Subscription Department,* THE SPHERE, *Ingram House, 195-198, Strand, London, W.C.2. The rates for 12 months, including Christmas Number, for Great Britain and Eire are £5 16s. 6d.; 6 months and Christmas Number, £3; 6 months without Christmas Number, £2 16s. 6d. For Canada the rates for the same periods are £5 14s., £2 19s. and £2 15s.; and for elsewhere Overseas £5 18s. 6d., £3 1s. 3d. and £2 17s. 6d. The terms are inclusive of postage.*

A London Newslette

195-198, STRAND, W.C.2.

A Test for Parliament.—From now on to a late Easter, Parliament will be in session at a time of domestic anxiety and international events of first importance. At home, Parliament meets at a moment which can fairly be called an industrial crisis and be compared, for all its differences, with those of the 1920's in gravity. It will be a test of Parliament. We sometimes wonder whether it still possesses the powers it once had, to influence Government policy, or whether such powers of influence that remain to the public are exerted now by the Press, voicing the public's delayed-action majority opinion. The present trend in strike action has been going on long enough for the public, the Unions and the politicians to form a right judgment of the implications and to assess the dangers. Dissatisfaction with wage scales is the motive force, and that, in turn, is due to experience of the cost of living and to jealousy of higher scales current in some allegedly allied industries. The bulk of the Unions are led by men whose outlook is broad, sound and patriotic. That part of the general public who are capable of seeing beyond their own backyards share with these Union leaders a few established, unquestionable premises: The wage demands called for in full cannot be met out of earnings unless modernisation and improvements in technique are to be neglected. In some industries there are loopholes for moderate increases and fair adjustments. In others there is no margin at all. In bulk, the national economy, struggling now with increased competition and falling markets, simply cannot stand a third of the amounts demanded. For these demands must immediately result in still higher prices for our products; further increases at home in the price of commodities and services; and still less demand for our exports overseas. In short, the whole of our slow and patient economic recovery from the verge of bankruptcy must be swept away if half the demands are conceded.

The Ugly Truth—No Quick Remedy.—It is not surprising that there is a school of thought which demands that the Government or Parliament or the Unions themselves must in the coming months take up the challenge and call the bluff and fight it out if the country is to be saved from economic disaster. In so far that a given strike is due to Communist or purely political influences, there is every reason and full public backing for a fight to the finish. But to meet threat with threat and to meet strike with lock-out is mere fuel to the fire in a Communist or politically inspired strike, and quite inappropriate to-day as a means of meeting the majority of existing demands for wage increases. For the position of the workers is much stronger than it was in the days of mass unemployment, and the need of their services of far more instant urgency. The Government of the day must be always ready to help but never be forward to interfere. Every day the danger grows. And there is no short-term remedy available. We know how long it is before the benefits of education can be felt; a generation of time. Yet education is the only remedy left. Somehow the truths, the bald, cold, simple economic facts will have to be driven home to the youngest and most hot-head worker, not with threats, but with eternal patience, tact and persuasiveness; that no advances (beyond adjustments) in pay can to-day improve the worker's lot: that every such advance means higher prices for his necessities, postpones the prospects of luxuries, and must reduce the profits of his own industry from which alone he derives his livelihood. That education won't be achieved in a day or in a year, yet if common sense does not filter in in a matter of months, it may well be too late. In such circumstances what can Parliament do, or the public, or the bulk of the Union chiefs? They can begin the process of education at this eleventh hour, or they can wait for a miracle of conciliation to appear like a rabbit from Sir Walter's top-hat.

M. Coty's Tasks.—There is much that is still rotten in the state of most civilised nations, politically and economically, and it would be foolish of us to look down our noses at France. France and M. Coty himself acclaimed M. Auriol as a truly great President, who in his seven-years term had preserved national unity and presided over the rebirth of France. His noble qualities no one disputes. He has unquestionably enhanced the reputation of his great office, but the rebirth of France is far from complete, her parliamentary institutions never stood lower in general repute. M. Auriol responded as warmly in his references to M. Coty's qualities, his patriotism, culture, good sense and great experience gained in an unadvertised life of service; and then he went on to admit that much remained for his successor to do which he had utterly failed to do. France's parliamentary institutions were so rotten that the authority, the efficiency, the very independence of France was in urgent danger; while the rebirth of its economy is still in a backward state of gestation. It has been said that M. Auriol despaired of the task of re-forming France's parliamentary institutions. The process by which France chose a successor to grapple with the tasks which the great Auriol failed to solve emphasised the Herculean labour ahead of M. Coty, but did not suggest that the warring political parties were likely to co-operate with him in his main task. They did not choose him as the most obvious Hercules *ad hoc*, but rather as the man least objectionable to all the warring guerilla bands. But perhaps he will achieve something at last on a wave of "national unity" tardily released. Perhaps at last the people of France will give M. Coty a mandate to cleanse the Augean parliamentary stable. The political must precede the economic rebirth.

Muslim Brotherhood.—General Neguib has many anxieties on his hands, as all dictators have, and he has the courage which all dictators need. For most leaders the problems facing Egypt in her relations with foreign countries would seem sufficiently grave for the deferment of any action likely to stir up more domestic troubles. But the General has not hesitated to risk enlarging his area of danger, and in dissolving the Muslim Brotherhood he risks more than he risked in 1952 when his *coup d'état* upset the old regime. For the Brotherhood is a world-wide organisation, and by all accounts it is directed by shrewd and statesmanlike leaders who know when to bide their time and when to strike with terrible suddenness. Such a [illegible] is its Supreme Guide, from whose many names I will not attempt to make selection. The movement has been suppressed and disorders and assassinations have resulted. Certainly it is reasonable to suppose that the Sword of Damocles hangs over the head of the [illegible] who dissolves this world-wide Brotherhood, whose methods of revenge may be long deferred or swift and sudden, and, like the vengeance of the *Four Just Men*, may take all sorts of unexpected forms. Until the form of the new constitution is known, it is unlikely that the Brotherhood will show its hand.

A DIPLOMATIC OCCASION IN LONDON

THE RE-HOISTING OF THE PERSIAN FLAG IN LONDON: Mr. [illegible] Afshar-Ghasamlou, the Persian Chargé d'Affaires, performs a simple ceremony at the Embassy in Portland Place, following the resumption of diplomatic relations between Britain and Persia. Since October 1952, Persian affairs in this country have been handled by the Swedish Embassy Staff, so before assuming his responsibilities Mr. Amir Afshar-Ghasamlou visited the Swedish Embassy to effect the transfer of Persian interests back to Persia.

No Frontiers.—We live in a world of [illegible] jealously guarded, of barriers and iron curtains. Our answer to ever easier means of communication between men of different races. The easier communication becomes, the bigger and stronger the obstacles we put in its way. We forever move backwards to the Dark Ages from which we advanced to an ideal in the Middle Ages when religious houses over the Continent, speaking a common tongue, made easy the exchange of all that was worthy of exchange. In the first dark age we lived in fear. In our second dark age it is fear again that builds the barriers. But sometimes humanity breaks in and breaks the barriers down. It was so in the Austrian avalanche disaster. Helpers from Germany, Switzerland and West Austria poured over them and were welcomed unscreened, for the task and human duty of help

the victims. Some of the helpers (who knows?) may have been Communists or Fascists. At that moment nationalism died and men of all races became for a moment brothers and fellow-Christians. It is strange that nations can co-operate only in suffering never in rejoicing, only in emergency, never in normality. Still, it is a comfort to know that even our barricades are not inviolable and that charity can still infiltrate.

Publishing Pornography.—There are publishers and publishers, and all kinds are hard put to it to make a fair profit, and all kinds work under the banner of a calling with a still very high reputation. No doubt under present economic conditions the profit motive must bulk larger than it did, but the bulk of publishers must still place their reputations before the distant prospect of making a fortune. The prospect is very bright indeed for those who peddle pornography. When, therefore, in a trial concerning obscene publications, counsel for the defence argued that "all a publisher could do was to try and discover what the standards of public opinion were to-day with regard to what is 'obscene,'" I give him credit for keeping strictly to his brief and concerning himself only with whether or no his client had broken the law. But a publisher surely aspires to be something nobler than a man who just manages to avoid breaking the law. He is a trustee, an educator, an upholder of the great traditions of his calling and perhaps of his house. Such a man, if he (unfortunately) published a work which forty years ago could only have been sold under the counter in the Rue des Capucines, in Paris, would hardly argue that present-day criterions of decency in literature are his sole criterion; that if enough book-buyers are found to exist to exhaust his first edition, he has thereby decided the "present criterion" and his own, and may sleep quiet in his bed with a pure conscience. Public taste is not always on an upward curve. It rises and falls, and it does not follow that what public opinion held indecent in 1900 is not still indecent in 1950. The publisher is very much concerned not only with obscenity in his book, but with obscenity in the minds of his readers. Otherwise, though he may be a shrewd and successful issuer of books, he is not a publisher worthy of a great profession, expected to educate, not to corrupt.

Rebuilding the City.—London, unlike Paris, "just growed," and, unfortunately, it "just growed" most quickly at a time when our race was given over to the worship of Mammon, was drunk with the craze for getting rich, and threw up in every direction jerry-built shacks and mean and dismal and tasteless streets to house the rustics who had become the slaves of new urban industries. Hence the slums and the unutterable depression of the outskirts of our great capital. And now after Hitler's purge, as after the Great Fire's purge, it is all to do again in the City. Already £45,000,000 worth of building licences have been applied for, and the Minister of Works has made it clear that, still as of old, the rebuilding of the City worthily was not a job for the Government. Still as of old, it is a job for private initiative. It was so in the mid-Victorian era and the 'tween-wars era, and it gave us our Claphams and our Peacehavens and our ribbon-developments. Perhaps the Minister of Works had that in mind when he issued his "word of warning," which is as far as Governments care to go in governing. He told the architects and all local authorities that they had an opportunity for noble design and a duty and trusteeship demanding co-operation and unified planning. Go-as-you-please may be all very well for bathing chalets at Deauville or Margate, and every architect is entitled to express his individual fancy and genius, but co-operatively and in moderation and subjection to an agreed ideal. Subject to that . . . go as you please.

Sir R. Molyneux.—If Fritz Ponsonby was the last of the Edwardian courtiers, Dick Molyneux, though his Court service began long after King Edward's death, was in the same tradition and possessed all the essential gifts. *Ami des rois, chéri des princesses.* He was by no means a mere carpet-knight. He fought in the Tirah and Omdurman campaigns and in the First World War. But he certainly shone in the arts of peace, and his taste, his infinite tact in smoothing out "unpleasantnesses" (which was not called forth so often as Ponsonby's), his fund of apt anecdote to suit every occasion and all audiences, his perfect manners and sense of atmosphere, all were jewels and relics of a gracious age long past. He did himself well in his comfortable flat in Berkeley Square before the last war, surrounded by works of art and ministered to by *cordons-bleus*, and enjoyed his life, his Royal friendships and the society of a wide circle of friends to the full. I am sure no man alive ever derived more innocent pleasure from autograph letters from Royal personages, and since they reached him at frequent intervals over thirty-five years, we may assume that he had a full share of human happiness.

THE OLD STAGER

IN NEXT WEEK'S ISSUE

WEEK-END FISHING for the LONDONER

Maurice Wiggin Discusses Angling Possibilities within a Few Hours Journey of the Metropolis

SWITZERLAND PREPARES FOR HER VISITORS AFTER THE SNOWSTORMS

A SNOW-PLOUGH CLEARING THE WAY AT SCHEIDEGG: The powerful rail snow-plough biting its way through a deep drift of snow which had cut off the winter sports resort of Scheidegg, in the Bernese Oberland. It took an army of workers with snow-ploughs two days to reopen the way to Wengen and Grindelwald. Within a few days the sports resorts in this part of Switzerland were being made ready for the visitors, and life was restored to normal.

One of the first tasks in most parts of Switzerland after the unusually heavy snowfalls and the accompanying avalanches was to restore the winter sports resorts to order. Fortunately for those areas which depend so much on tourist traffic, the damage in the most popular resorts was far less severe than in Eastern Switzerland or in Austria. Nevertheless, considerable work had to be done to clear the roads and railways blocked by enormous drifts of snow. At Scheidegg, for example, the small village was completely cut off for two days. But with a large number of helpers, the roads were cleared and the ski runs tidied up. The approaches to the Jungfrau were never blocked for very long, and skiers were soon enjoying the 40 ins. of snow on the slopes. The amount of snow that fell in January can be judged from the fact that even in the village there were still 20 ins. of snow. However, winter sports enthusiasts have been flocking to their favourite resorts in Switzerland with undiminished zeal.

THE NICHE WITHIN A SNOWDRIFT: The post office at Kleine Scheidegg as it appeared after the exceptionally heavy falls of snow which cut off the village for forty-eight hours. The house is buried in 6 ft. of snow, and the roof is topped by another heavy layer. Although this part of Switzerland did not suffer from avalanches as severe as those in the areas further east, winter sports were held up for some days while the unusually heavy snowdrifts were cleared.

THE BIG FOUR IN BERLIN

The Arrival of the Foreign Ministers and their Delegations, and the Setting for the Momentous Talks which are now being held

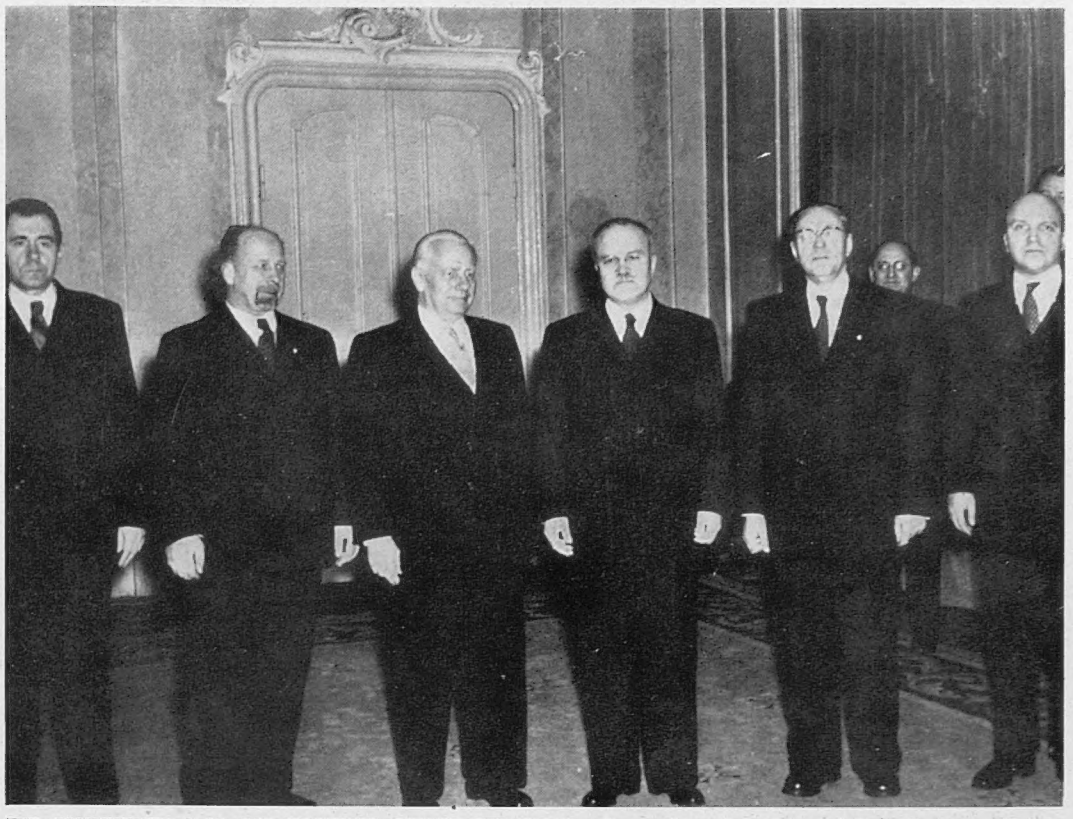
WILL YOU SAY A FEW WORDS, PLEASE? The United States Secretary of State, Mr. John Foster Dulles, besieged by radio and newsreel reporters on his arrival at Tempelhof Airport for the Berlin Conference. Mr. Dulles, who was the first of the Foreign Ministers to arrive in Berlin, was greeted by a nineteen-gun salute from five American tanks, and a steel-helmeted guard of honour of the Sixth American Infantry Regiment.

MR. EDEN ARRIVES AT TEMPELHOF: The Foreign Secretary inspecting guard of honour from the 1st Battalion the Royal Irish Fusiliers on his arrival by air in Berlin. Behind Mr. Eden is seen Sir Frederick Hoyer Millar, the British High Commissioner in Germany, and on his right, Major-General C. F. C. Coleman, British Commandant in Berlin.

M. BIDAULT AT THE BERLIN TOWN HALL: The French Foreign Minister waving to photographers after he had signed Berlin's Golden Book at the Town Hall, where he was received by the Lord Mayor.

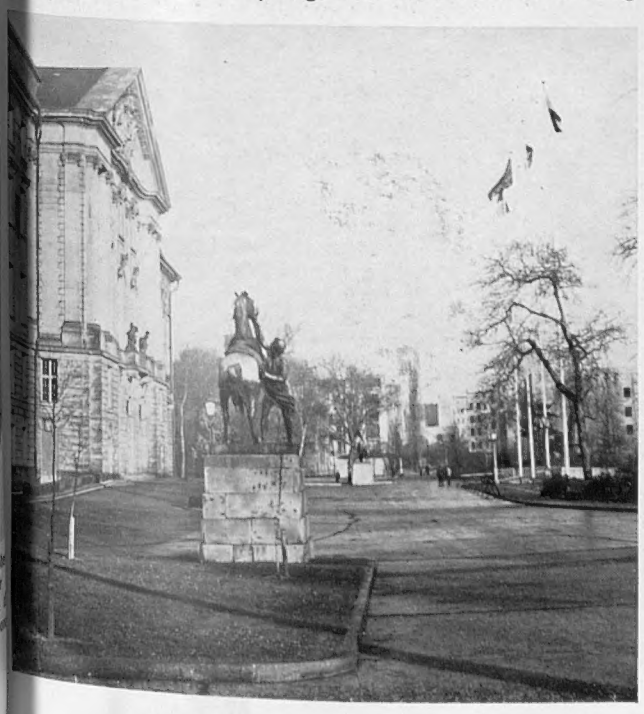
A PRELIMINARY CONFERENCE FOR THE WESTERN DELEGATES: Mr. Dulles, extreme right; Mr. Eden, in front of the photographer; and M. Bidault, opposite Mr. Eden, at the conference-table in the residence of the French High Commissioner in Germany at Waidmannslust, in Berlin. A series of talks were held between the Western representatives before the actual Big Four Conference began. Another meeting was held at the residence of the American High Commissioner.

MR. MOLOTOV ARRIVES IN EAST BERLIN : The Soviet Foreign Minister being greeted on his arrival at Schoenefeld Airfield, in the Russian Sector of Berlin. Behind him, right, wearing a hat, can be seen Mr. Gromyko. Mr. Molotov left the airfield in a convoy of twenty-nine Russian cars which drove to the Soviet Embassy at high speed.



THE COMMUNISTS ALSO GOT TOGETHER BEFORE THE TALKS : A meeting of Soviet and East German officials at the Soviet Embassy shortly after Mr. Molotov's arrival in East Berlin from Moscow. From left are Mr. Andrei Gromyko, Deputy Foreign Minister ; Herr Walter Ulbricht, the East German Deputy Prime Minister ; Herr Wilhelm Pieck, the East German President ; Mr. Molotov ; Herr Otto Grotewohl, the East German Prime Minister ; and Mr. W. S. Semjonow, the Soviet High Commissioner.

OUTSIDE THE MEETING-PLACE IN THE WESTERN ZONE : A crowd of interested spectators outside the Allied Control Council building, in the American Sector of Berlin. Here the first week's meetings were held. Next week the Big Four Conference will take place in the residence of the Soviet High Commissioner. *Below*—Another view of the imposing Allied Control Council building.

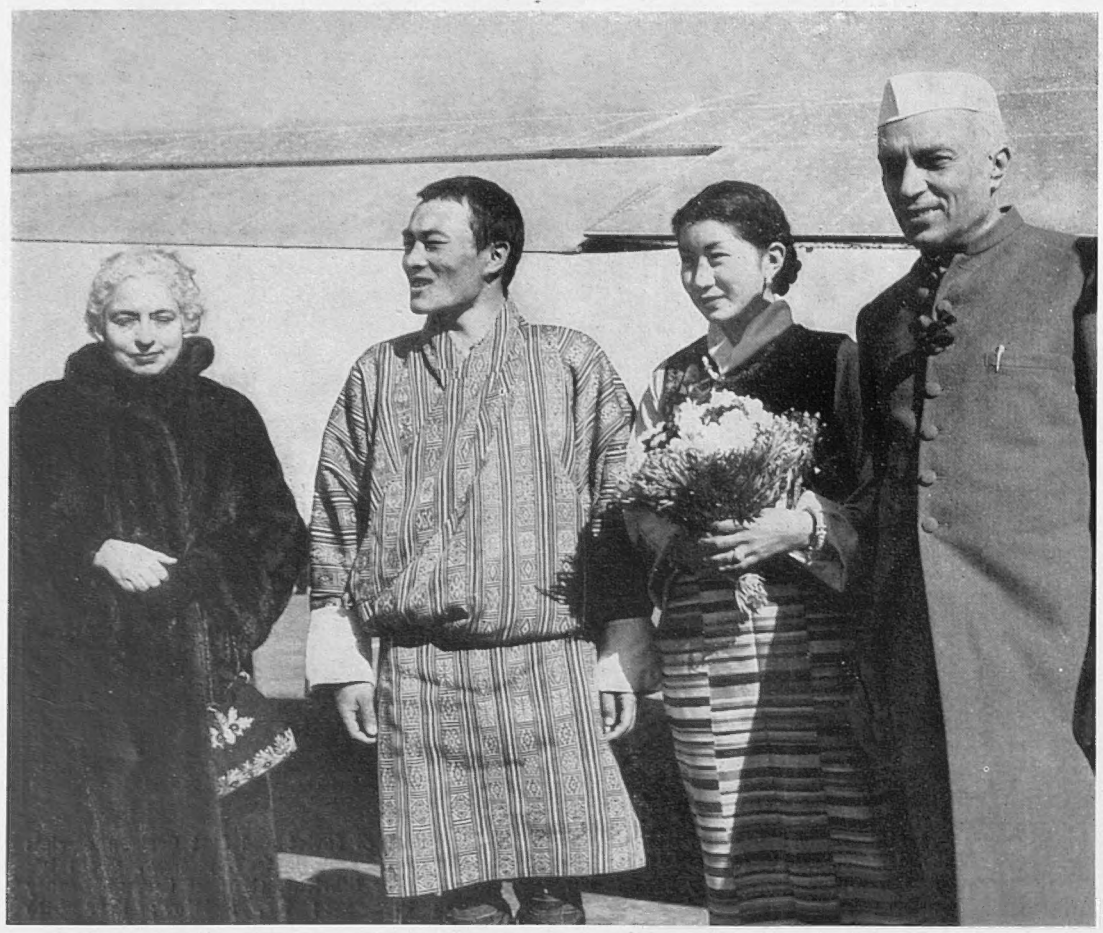


WHERE THE BIG FOUR ARE MEETING : The conference-room in the Allied Control Council building. There are twenty chairs around the conference-table, and an interpreter's relay system has been installed. The interpreters themselves sit in the booths which are seen in the background.

AUSTRIAN OBSERVERS FOR THE CONFERENCE : The Austrian delegation which is in Berlin to observe on any discussions that might take place about the Austrian Peace Treaty. From left are Dr. Marcus Leitmaier, Dr. Georg Roesler, Dr. Josef A. Schoener, who is heading the delegation, Dr. Klein, who is Chief of Protocol of the Berlin Senate, Herr Walter Donath, Dr. Mauler and Dr. Kronhuber.

FOREIGN SURVEY

A Pictorial Review of Recent Events in Asia and Throughout the World



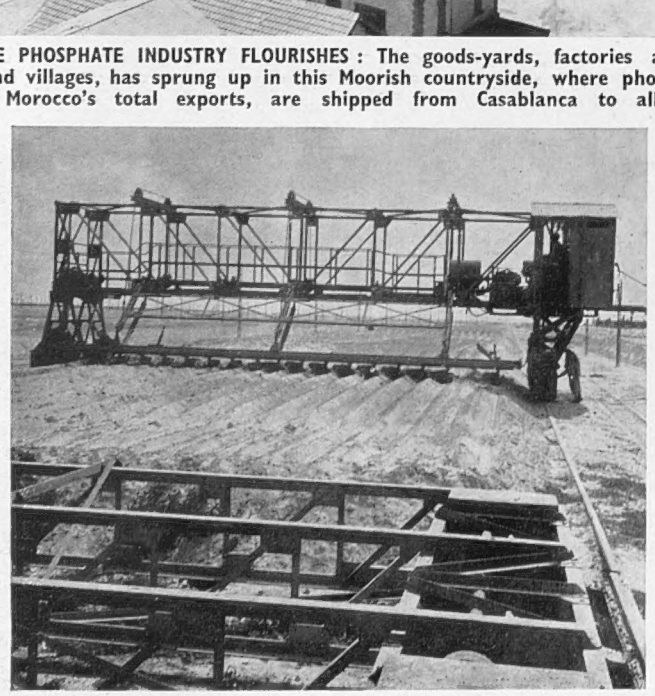
THE RULER OF AN INDIAN PROTECTORATE ARRIVES IN DELHI : The twenty-five-year-old Maharaja of Bhutan and his wife on their arrival at Delhi Airport with, left, Madame Pandit, President of the United Nations General Assembly, and on right Mr. Nehru, the Indian Prime Minister. The Maharaja and Maharani were accompanied by thirteen officials, five interpreters and a personal staff of twenty. The object of their visit is to tour Buddhist pilgrimage centres and to engage in top-level talks with Government leaders. The Maharaja was received by the President of India, Rajendra Prasad, with whom he exchanged presents and robes in traditional style. Bhutan is a large mountainous state bordering on Tibet, and is a protectorate of India. Delhi controls the state's communications and defence and foreign policies. But Bhutan's spiritual leadership comes from the Dalai Lama in Lhasa, now under Communist domination.

THE GENERALISSIMO WITH THE AMERICAN FLEET : President Chia Kai-Shek, left, with Vice-Admiral Alfred M. Pride, Commande of the United States Seventh Fleet, and Major-General Pee Tsu Kan, a military adviser, aboard the aircraft-carrier Wasp, Formosa. The leader of Nationalist China was paying a visit the Seventh Fleet to watch naval air operations. The 15,0 anti-Communist Chinese prisoners-of-war released in Korea week were sent to Formosa, the Generalissimo's headquarter

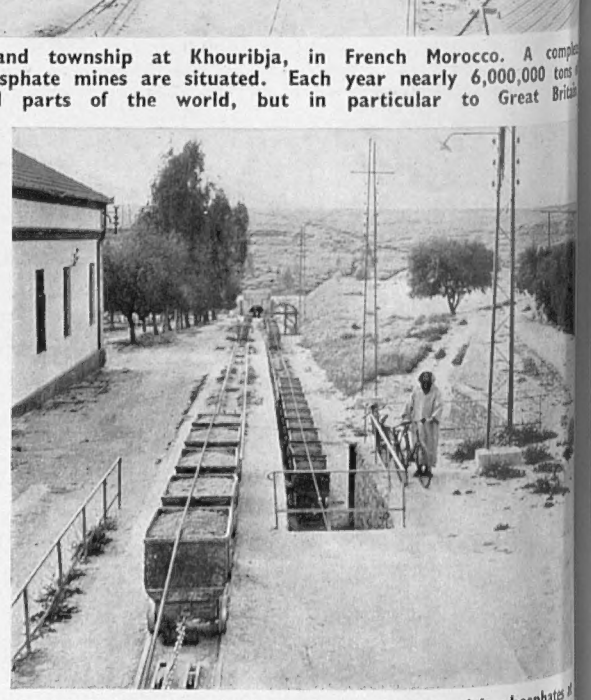
THE PEACEFUL SIDE OF MOROCCO, WHERE THE PHOSPHATE INDUSTRY FLOURISHES : The goods-yards, factories and township at Khouribja, in French Morocco. A comple industry, with the accompanying towns and villages, has sprung up in this Moorish countryside, where phosphate mines are situated. Each year nearly 6,000,000 tons phosphate, accounting for a third of Morocco's total exports, are shipped from Casablanca to all parts of the world, but in particular to Great Brita

Phosphates are among the most important fertilisers used in agriculture, and French Morocco produces roughly a fifth of the world's output. One of the largest importers of the product is Great Britain, and a considerable trade is carried on between this country and Morocco. The phosphate deposits in the Moorish countryside were first developed at Bou Jniba in 1921. Now, despite an almost total stoppage of work during the war, the phosphate mines at Khouribja are producing nearly 6,000,000 tons of phosphate annually, providing a third of the total exports of French Morocco. The industry is State administered from Rabat, and the phosphates are shipped from Casablanca.

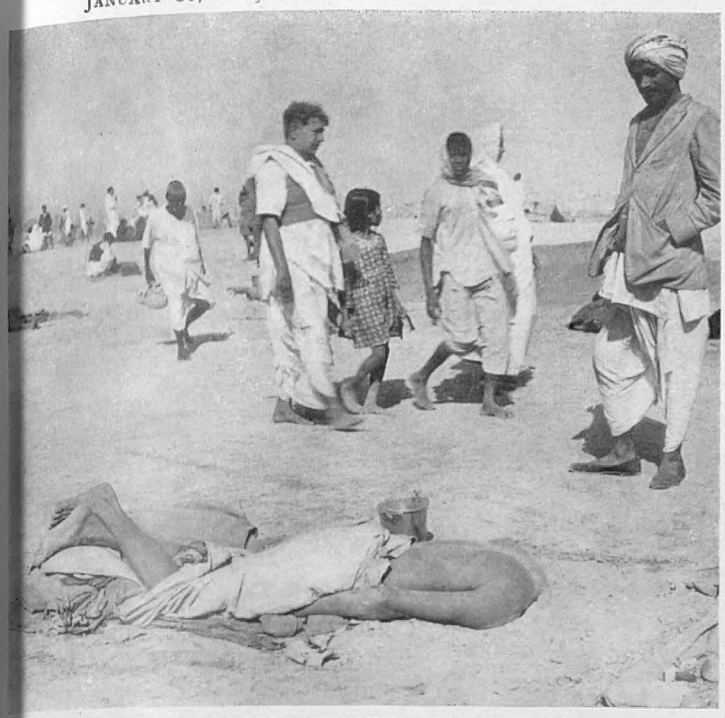
Khouribja has developed into a flourishing community. A small town, complete with schools, churches, sports grounds and all modern facilities, has been built for the 3,500 Europeans comprising the technicians working on the site and their families. Near by, two picturesque modern villages are inhabited by the Moorish population, who work the mines. These villages include hospitals and Koranic schools. It is a flourishing industry of great importance in a rather quieter part of Morocco, and the exports of Khouribja will always remain of considerable interest to British farmers.



A MECHANICAL PLOUGH IN ACTION : One of the many pieces of modern machinery employed in the Moroccan industry. Ploughing the phosphates is one of the processes through which they have to pass before they are ready for shipment abroad.

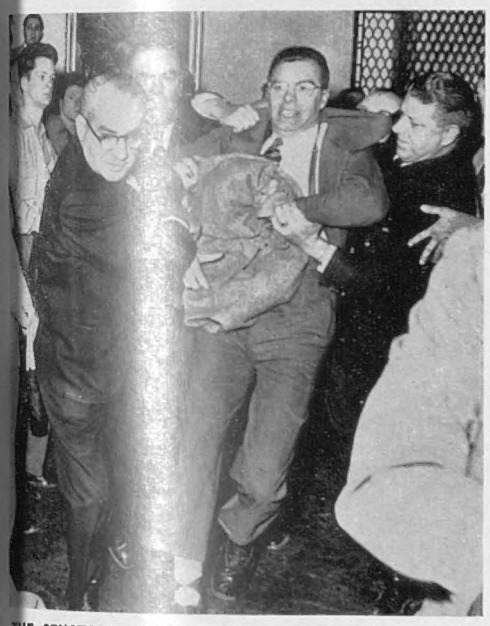


AT THE PROCESSING WORKS : Trucks loaded with phosphates a the works, after they have been drawn from the tunnel i the distance, where the phosphates are mined. On the righ are empty trucks returning on one of the two railway lines

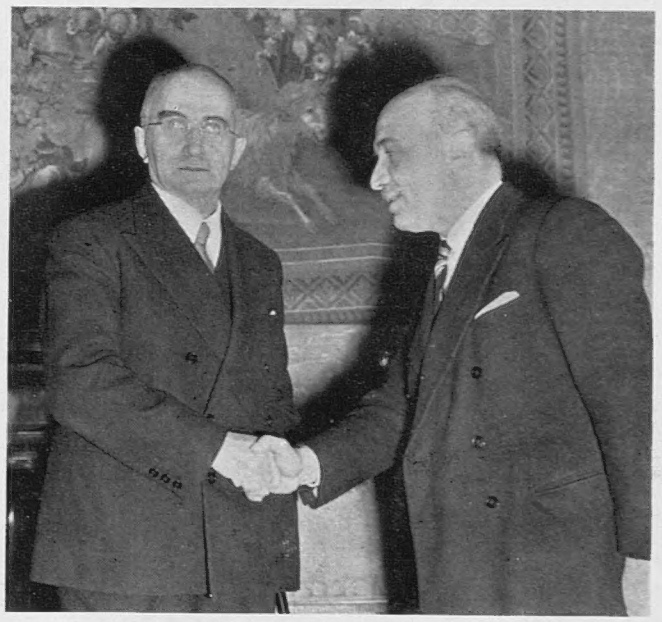


THE HOLY MAN WITH THE OSTRICH TOUCH : A Sadhu, or Hindu holy man, burying his head in the sand during the Kumba Mela, which has attracted more than 5,000,000 Hindus to Allahabad. At the end of each hour the holy man withdraws his head from the sand to relax and to collect the coins which some of the pilgrims have in the meantime placed near him. From all over India Hindus have come to bathe in the holy waters at Allahabad during the festival. According to the Sadhus a combination of the planets, like that during the present Kumba Mela, which lasts a month, occurs only once in 144 years. Those who bathe on the six auspicious days fixed during this period will liberate themselves and their ancestors from the burden of re-birth. The pilgrims are led in their holy bathing by 300 naked Naga Sadhus.

MAKING THEMSELVES AT HOME FOR THE MONTH'S BATHING : A general view from a watchtower on the banks of the holy rivers. Pilgrims are seen setting up tents and making themselves comfortable by the holy bathing place. This is the confluence at Allahabad of the three rivers, Ganges, Jumna and Saraswati, though the latter, being mythological, is never seen.



THE SENATOR'S FIGHT AGAINST COMMUNISM—SCENES DURING A McCARTHY HEARING : *On left*—Nathaniel Mills being forcibly evicted from the room in which Senator McCarthy was conducting a one-man Senate Committee hearing at Boston. *On right*—Oliver S. Allen, counsel for a witness before the Senator, being similarly manhandled after his client had refused to answer certain questions. The junior Senator from Wisconsin, who had recently been in fine form, especially in his campaign against Harvard University, held an exceptionally brilliant and noisy public hearing on alleged Communist infiltration in defence plants. In ninety minutes five witnesses appeared and three people were ejected. Mills, a former employee of the General Electric Company, interrupted the hearing and accused the Senator of conspiring with the Company to take away the jobs of people seeking better pay. Allen was appearing on behalf of Theodore G. Pappas, a present G.E.C. employee, and also, incidentally, a former Harvard man. Mr. Pappas had refused to disclose names of Communists, and was also ejected.



SIGNOR FANFANI TRIES TO SOLVE ITALY'S POLITICAL CRISIS : The newly-appointed Prime Minister, right, shaking hands with President Einaudi at the Quirinale in Rome after he had presented his list of Cabinet Ministers. It was hoped that Signor Fanfani would thus have resolved the Italian ministerial crisis, which was caused by the resignation of Signor Pella's Government a fortnight before. However, it seemed unlikely at the time that Signor Fanfani's Ministry would command for long the confidence of the present Italian Parliament, and another General Election, the second within a year, was expected.

SIGNING A BURMA OIL AGREEMENT : The ceremony in Rangoon at which an agreement between three British-owned oil companies and the Burmese Government was signed. Seated at the table, from right, are Mr. R. S. Carey, General Manager of the Burmah Oil Company, Mr. W. E. V. Abraham, Managing Director of the Company, U Ba Tun, Secretary of the Burma Ministry of Mines, U Chan Tun Aung, Assistant Burmese Attorney-General, and U Ba Swe, Minister of Mines. Mr. Abraham represented not only his own company but also British Burma Petroleum Company and the Indo-Burma Petroleum Company. Together with the Burmese Government, they have formed a new £20,0.0,000 company which expects to refine 4,500 barrels of petroleum a day initially, and eventually to increase the output to 10,000 barrels.

THE NEW BRITISH MINISTER AT THE VATICAN : Sir Douglas Frederick Howard, in the centre, who is Britain's new Minister to the Holy See, outside the Papal apartments after presenting his letter of credence to the Pope. At this ceremony, the Pope spoke of the great services which the Queen had rendered since her accession.

KOREA PRISONERS ARE SET FREE

But the United Nations Men who Chose Communism are Left in No-man's-land

A HANDSHAKE FOR A FREE MAN : The Chinese prisoners who refused to go home were taken by trucks to Inchon, and there embarked in landing ships for Formosa, where they will join up with General Chiang Kai-Shek's Nationalist Army.

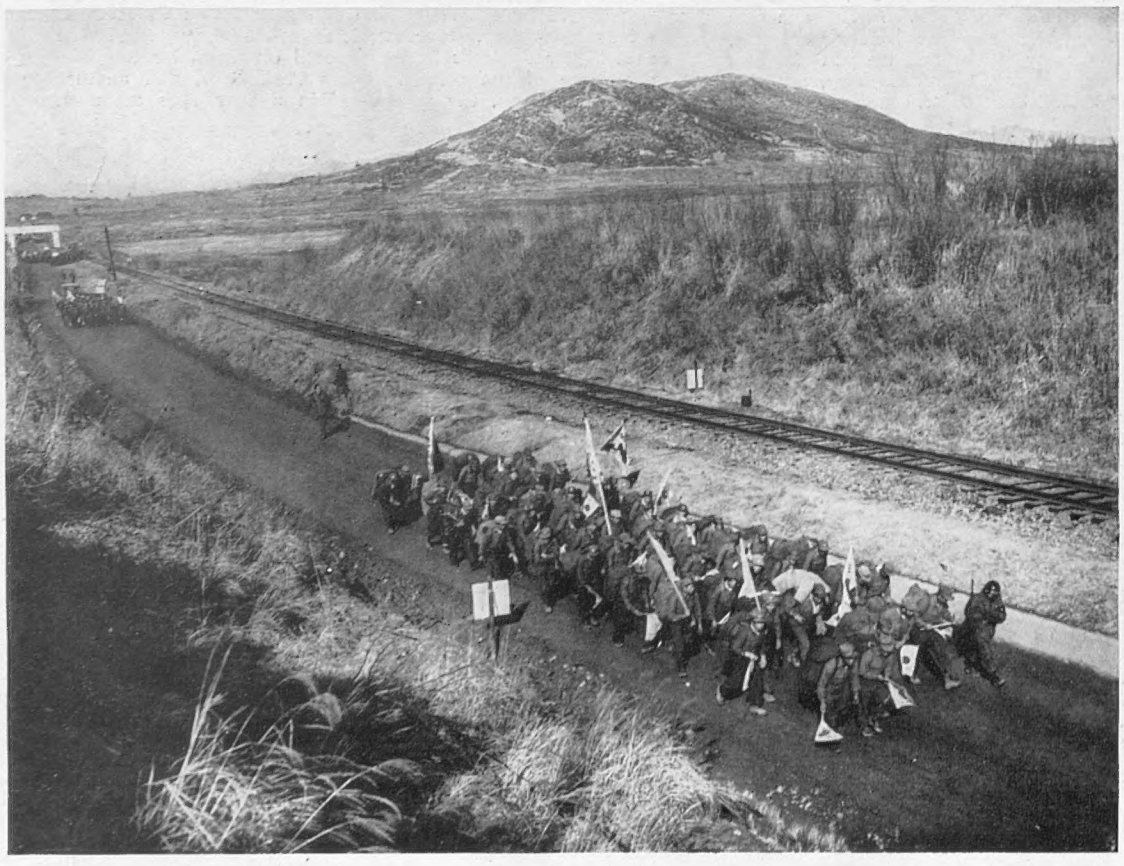
ANTI-COMMUNIST PRISONERS ARE RELEASED FROM PANMUNJOM : Some of the 12,700 freed Chinese prisoners, bearing Nationalist flags, are seen as they leave the neutral zone. About 20,300 of the Chinese and North Korean prisoners taken by the United Nations chose not to return to their Communist homelands : the Indian custodian forces therefore turned them over to the United Nations.

Last week-end the Indian custodian forces at the prisoner-of-war camps in Korea finished their thankless task ; some 20,300 North Korean and Chinese troops who had refused repatriation were allowed to march out to the United Nations lines and there be dispersed. Promptly, the Communist delegation demanded their return : the Communists have been insisting that the fate of prisoners who do not want repatriation should be settled at the peace conference.

The only prisoners left in the neutral zone were the 350 South Koreans, 21 Americans and the lone Briton, Marine Andrew Condron. Holding to their point on repatriation, the Communists refused to accept them. So, in the bleak, frozen strip of no-man's-land, just two-and-a-half miles wide, the Communist converts were left to their own devices. They assured General Thimayya, the Indian Chairman of the Neutral Nations Commission, that they would cause no trouble.

A WELCOME FOR THE CHINESE : A group of Chinese residents in Seoul banded together to welcome their compatriots at the receiving point. The Chinese who refused to return home carried the flags of Nationalist China and the United Nations.

CHINESE PRISONERS ON THE WAY TO ASCOM CITY : At Ascom City, between Seoul and Inchon, the Chinese prisoners were "processed" before being embarked for Formosa. They carried portraits of Sun Yat Sen and Chiang Kai-Shek.



NORTH KOREANS MARCH OUT : An Indian officer leads a party of North Koreans out of the demilitarised zone. *On left*—ON THE ROAD TO FREEDOM : Small groups of North Koreans, bowed down by their personal gear, march to the U.N. lines carrying South Korean flags.

EGYPT'S TROUBLES

General Neguib Dissolves the Muslim Brotherhood in Cairo, while Major Salem goes on a Propaganda Tour of the Sudan

BAG AND BAGGAGE, THE MUSLIM BROTHERHOOD IS ROUNDED UP: Members of the influential political-religious society during the round-up in Cairo, ordered by the Egyptian Government. After more than 450 members of the Brotherhood had been arrested, the movement was officially dissolved.

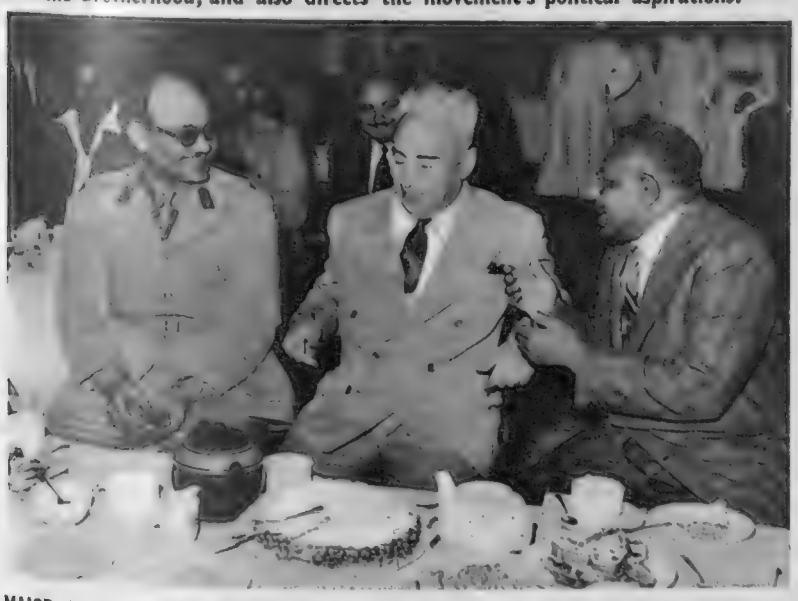
Within forty-eight hours General Neguib's Government arrested the leaders of the Muslim Brotherhood and announced the dissolution of the Movement. The Brotherhood is primarily a religious organisation, but their political ambitions have always been strong, and successive Egyptian Governments over the past few years have found it difficult to curb their activities. When in 1948 the Brotherhood was dissolved, preceding a wave of arrests, the Prime Minister of the time was assassinated by a member of the organisation. This time the Revolutionary Council had taken the precaution of making the arrests first, and announcing the dissolution later.

When General Neguib and his military supporters first came into power, it was understood that they enjoyed a broad measure of support from the Muslim Brotherhood. But as time went on the Supreme Guidance Council, an oligarchy which exercised complete control over the organisation, demanded an ever-increasing say in the administration of the country. This influence was resisted by the Revolutionary Council, and the Brotherhood became openly critical of the Government. One of the main causes of their dissatisfaction was the continuance of Anglo-Egyptian negotiations, to which the strongly Nationalist Movement was violently opposed.

The leaders of the Brotherhood were, of course, accused of conspiring with members of the British Government to plot against the Egyptian Government. The strong British repudiation of these accusations was not published in Cairo, and it remains to be seen whether General Neguib's method of dealing with the Brotherhood will be more successful than that of previous Egyptian administrations.

THE BROTHERHOOD'S SUPREME GUIDE UNDER ARREST: Sheikh Hassan el Hodeibi, left, head of the Supreme Guidance Council of the Muslim Brotherhood, with Salah Abou Shadi, another member of the Council, after their arrest at Helmia, a Cairo suburb. The Supreme Guide is the spiritual head of the Brotherhood, and also directs the movement's political aspirations.

EARLY MORNING ARRESTS—A FAMILIAR SIGHT IN GENERAL NEGUIB'S EGYPT: *On left*—Haroun el Mogaddedi during the arrests of members of the Muslim Brotherhood. *On right*—Abdel Hakim Abdin, Secretary-General of the Brotherhood. The military policeman escorting him also took part in the arrest of former Egyptian Ministers last September, which was carried out by General Neguib's Government partly at the behest of the Brotherhood.

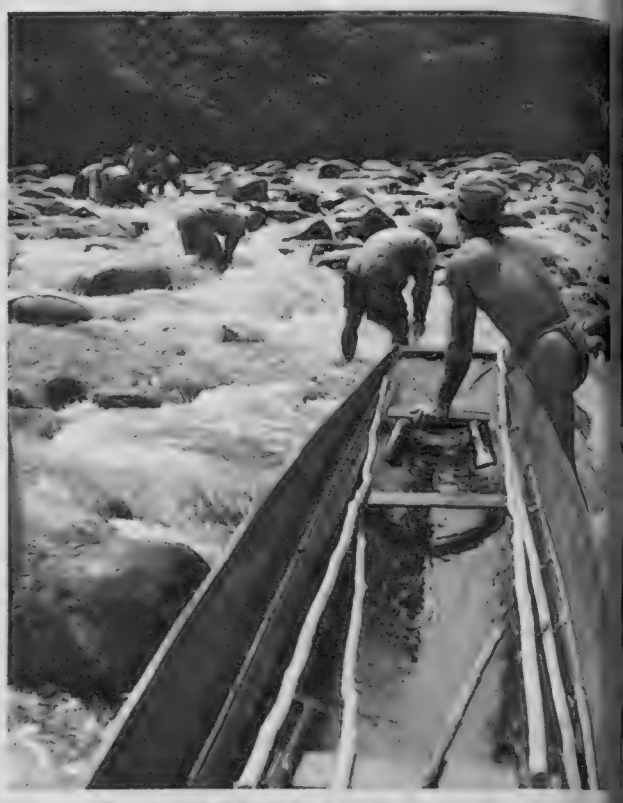


MAJOR SALAH SALEM RETURNS TO THE SCENE OF HIS DANCING TRIUMPH: The Egyptian Minister of National Guidance at a reception in Khartoum during his visit to the Sudan. With him, centre, is Mr. Dia Maian, the Pakistani President of the International Governor-General's Commission for the Sudan, and right, Mr. Ismail el Azhari, the Sudan's first Prime Minister. *On right*, the Egyptian Minister being greeted by young people in Khartoum. It was in the Sudan that Major Salem was photographed dancing in his shorts; this earned him the sobriquet of the "Dancing Major." His latest visit was, however, received with mixed feelings. Accompanied by Major-General Hakim Amer, C.-in-C. of the Egyptian Army, Major Salem pursued an open campaign of propaganda. This has angered members of the Sudanese Opposition parties. They have protested that Major Salem's visit is a violation of the Anglo-Egyptian Agreement on the Sudan.

A PARTY IN THE SARAWAK JUNGLE

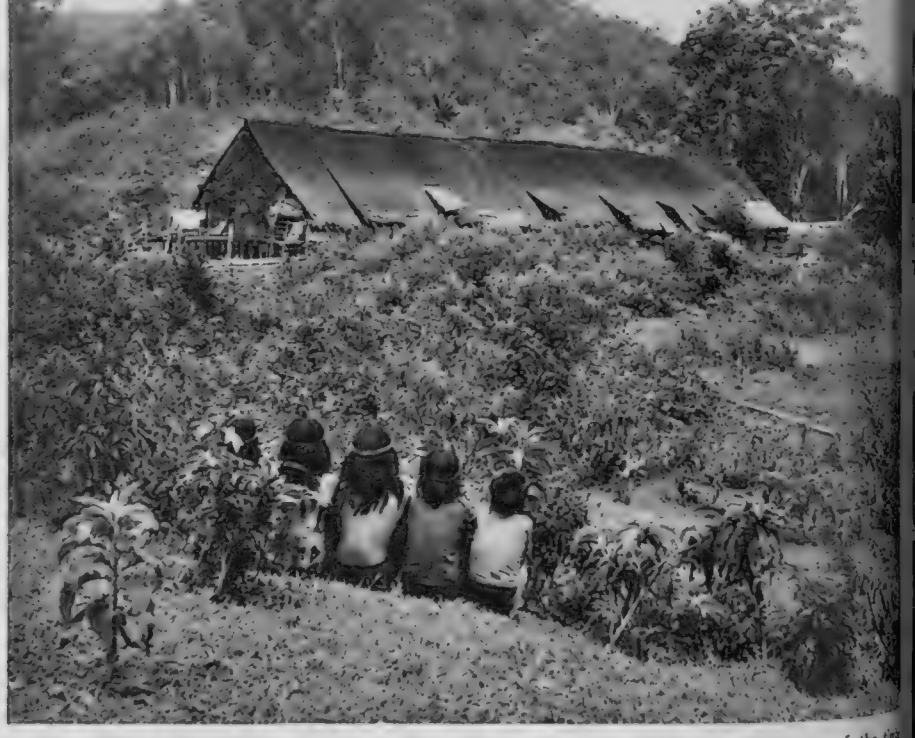
Kelabit Villagers, Who All Live Together in the Same House, Have a Hospitable Way with Strangers

EN ROUTE TO A PARTY WITH THE KELABITS : Travelling to the Kelabit plateau from the coast of Sarawak can be an arduous business. Sometimes it takes three weeks to cover the 85 miles, but at the end of it the traveller gets a warm welcome. Above is a Kelabit bridge of bamboo and rotang.



CLEARING A WAY FOR THE CANOE : The men of the Akah River, a tributary of the Baram River, are famous boatmen. Here they are moving boulders so that the boat can be pulled upstream.

TO-MORROW'S COMMUNAL DINNER : If a Kelabit hunter shoots a pig and brings it back to the longhouse, then all share in his spoils. Travellers, however, if they intend to stay, are expected to bring their own food with them. But first they will be guests at an all-night party.



A KELABIT LONGHOUSE : This longhouse is the home of some 300 people. Some of the timber of which it is built is hardwood and is insect-resisting ; the roof is thatched with palm leaves. Kelabit longhouses are highly inflammable, and if they catch fire are frequently gutted. They are dotted over the plateau at intervals of five or ten miles.

The Kelabit tribe of Sarawak, a race of Malay origin, live on a 3,000-ft. plateau which lies about 85 miles inland from the coast. Though not directly a great distance from the sea, the Kelabit plateau is looked on locally as the remote interior. The journey inland involves going up-river in an outboard motor-boat until the water shallows, when one has to use poles or paddles ; the last stages have to be made on foot through the jungle. In good conditions all this will take about ten days ; otherwise it can take three weeks. Lastly, there is a 6,000-ft. mountain range to cross.

Once a year the district officer visits them officially to take the census, settle legal disputes, and attend to their health and educational problems. This, for the Kelabits, is always an occasion for festivities. The Kelabits, a hospitable people, love an excuse for a party.

The Kelabit village is a longhouse—that is, a long, narrow building, set on stilts, which houses the entire community. There were 300 people living in the house in which our pictures were taken. Lengthwise, through the middle of the building, runs a wall into which there are let a few doors. On one side of the wall are the family quarters, on the other side live the unmarried men ; their quarters are also used for meetings, parties, and for housing guests.

The Kelabits have been converted to Christianity, but that has made little difference to their ancient ways and customs. They live a completely communal life in which privacy is unknown. They have a few personal possessions, which are usually slung from the rafters above their plot of living-room, but if one of them shoots a deer or brings back fruit it is shared among all. They are good gardeners, fruits and vegetables always be available, and their staple food is rice. Most of t cultivate dry rice up in the hills, but some have t up swamp rice cultivation, which is a much efficient method.

These longhouses are usually situated from five ten miles apart and visitors from far afield are o passed from one to another. Their arrival is always signal for a party, which will start during the day go right on throughout the night. At these parties Kelabits sing, dance, tell stories, show off, all in a sp of great gaiety, which, nevertheless, is courteous subject to their own highly-developed code of go manners.

Their national drink, of which a great deal is consum at their parties, is borak. It is made from cooked ri mixed with a yeast of rice flour and ginger root.

WOMEN POUND THEIR DAILY RICE : Rice is the staple food of the Kelabits and most of it is grown up in the hills by the wasteful method of dry rice planting, which means a good crop only once in ten years.

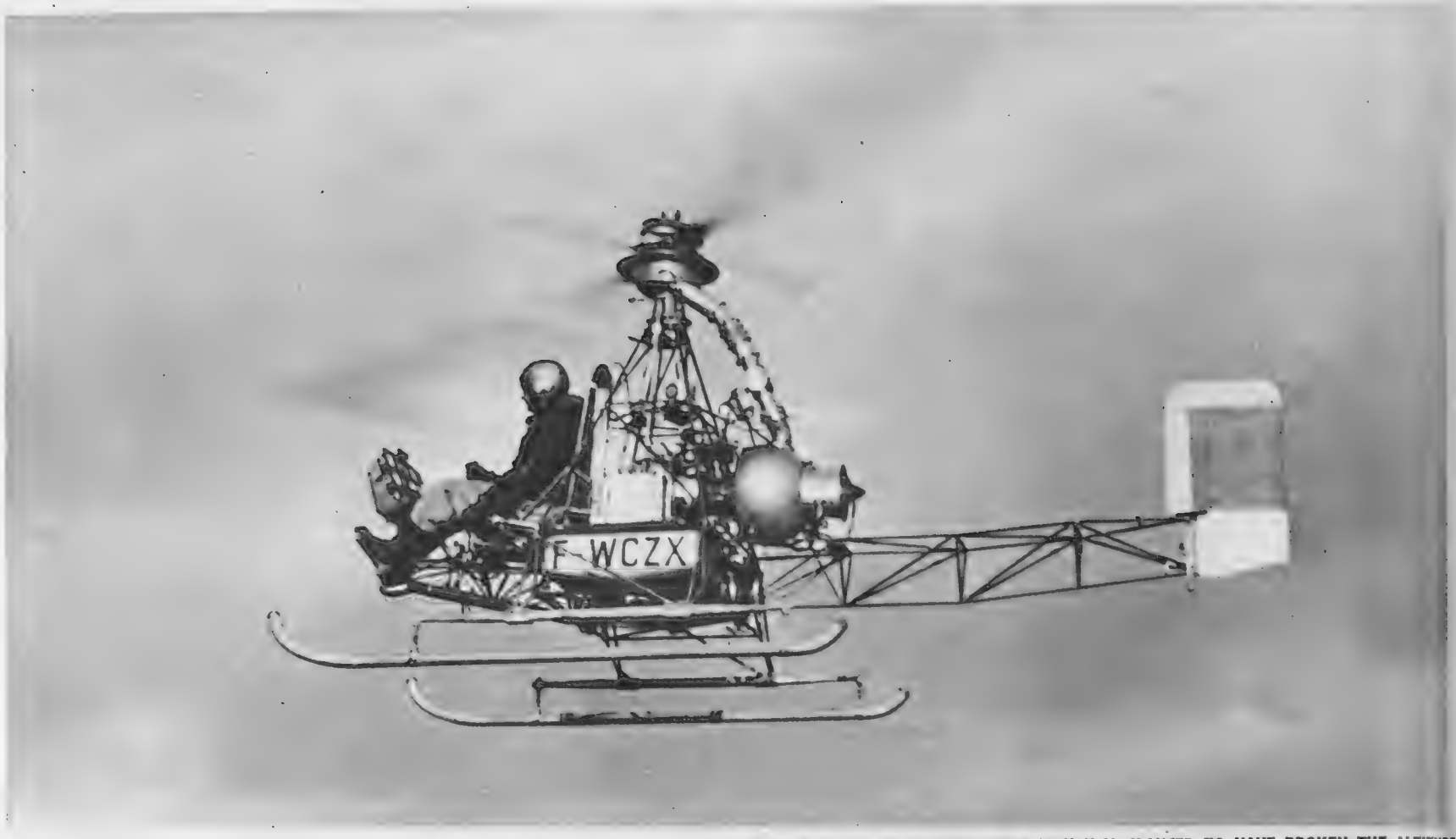
PRELIMINARIES TO A FEAST : A pig has been killed and is being prepared for cooking in the bachelor part of the house. The cooking is of a fairly simple kind : everything is cut into small pieces and cooked in a big pan without salt. The result is divided among the whole party.

THE COMMUNAL HALF OF A LONGHOUSE : The longhouse is divided in two lengthwise ; the bachelors' half of the house is also the scene of all their parties. Here, one is just about to start.

PARTY MANNERS : When a second drink is offered to a guest, he does not accept at once but waits until his neighbours put their hands on his bowl. This means they want him to be served first.

HIGH JINKS IN A LONGHOUSE : Kelabit parties, which can go on all night, become very gay. Apart from singing and dancing, they like comic mimes, which are performed to a gong accompaniment.

WARMING THE PARTY UP : It is broad daylight and the party has only just begun ; guests take the first of many drinks, the last of which will probably be served the following morning. The party-loving Kelabits give a stranger a wonderful welcome ; they all join the party to greet him.



A FRENCH JET-POWERED HELICOPTER WHICH IS CLAIMED TO HAVE BROKEN THE ALTITUDE RECORD : The Sud-Ouest S.O. 1220 Djinn helicopter seen in flight. On December 29 this aircraft, piloted by M. Jean Dabos, reached an altitude of 15,803 ft. This is to be claimed as a French record. It is also being claimed as a class record for helicopters weighing less than 500 kilos. The world altitude record for helicopters, 22,238 ft., is held by a United States Piasecki machine, and was set up during September last year. There is no existing record for helicopters of under 500 kilos. The Djinn is an experimental machine which is powered by compressed air supplied by a jet engine. The air is forced along the interior of the rotors and escapes at the tips. It is claimed that this method gives a better performance than is obtained with pulse jets at the rotor tips. The S.O. 1220, which first flew just over one year ago, is a single-seater prototype of a two-seater model.

IN THE AIR
and
ON THE GROUND

Two Items of News from the World of Aviation

A BRAKING DEVICE FOR JET AIRCRAFT : A Thunderjet aircraft of the U.S.A.F. seen at Landstuhl, in Western Germany, after having been brought to a halt by a chain barrier stretched across the runway. This device has been designed to lessen the risk of high-speed jet aircraft overshooting the aerodrome. On landing, the nose wheel of the fighter engages a nylon rope which is stretched across the runway. This rope slips a steel chain over the leading edge of the main wheels. The steel chain is attached to a length of iron chains, weighing 20 tons, which are dragged after the aircraft as it completes its landing run, which is thus shortened.

Above and on left— TWO VIEWS WHICH SHOW THE IRON CHAINS USED TO SHORTEN THE LANDING RUN OF JET AIRCRAFT : The chain barrier was designed by the Far East Air Logistic Force of the U.S. Air Force, mainly for use at United Nations air bases in Korea, where many of the existing runways were found to be too short for jet aircraft. The chain brakes work in a similar manner to the wires used on aircraft-carriers. Other methods of shortening the landing runs of jets have involved the use of parachutes.

THE CONSTANT EXPANSION OF AMERICAN STEEL PRODUCTION—A NEW PLANT UNDER CONSTRUCTION : An aerial view of the United States Steel Corporation's new Fairless Works being built at Morrisville, Pennsylvania. In the foreground is the dock which will accommodate ocean-going cargo vessels bringing ore from the newly-discovered deposits in Venezuela to the plant. Immediately behind the dock are the unloading wharves, the ore bridge and the blast furnaces.

AMERICA'S STEEL INDUSTRY

An Account of the Tremendous Growth and Development of One of the Most Dynamic Industries of the United States

By ROY JENKINS, M.P.

THE dominance of the United States economy can be expressed more simply in terms of steel production than in any other way. Ingot capacity at the end of 1952 was 104,000,000 tons. This was equal to the combined current output of Great Britain, the Soviet Union, Germany, France and Japan. The output of one company—the United States Steel Corporation—was substantially above that of Great Britain and somewhat above that of the Soviet Union.

Yet, as late as 1867, total American production had been less than 20,000 tons, a small fraction of Britain's output at that date. The economy made do with wrought iron, supplemented by the small quantities of expensive crucible steel which were available and by some imports. And the industry retained much of its Colonial pattern of production. Small blast furnaces using the low-grade local ores and burning charcoal were scattered about New England and other parts of the Atlantic seaboard as far south as the Potomac River. After 1840 there was a shift from charcoal to anthracite, and the valleys of Eastern Pennsylvania, where the latter fuel was available, increased in relative importance. But this slight change of emphasis was as nothing compared with the great changes in technique and location which began in the '60's and heralded a new industrial age for the United States.

For use in the blast furnaces, bituminous coal, coked in beehive ovens, became overwhelmingly more important than either charcoal or anthracite. And the developments, first of the Bessemer converter (whether in England by Sir Henry Bessemer or in Kentucky by William Kelly, as the Americans claim) and then of the open-hearth furnace, made it possible to produce steel, not by the pound, but by the thousand tons, and to use it, not merely for sharp-cutting instruments and tools, but for factories, railways, bridges, ships and wagons.

These were the developments which were to offer the possibilities of fruition to the genius of a young Scots immigrant. Andrew Carnegie had been born in Glasgow in 1835. At the age of thirteen he had come to America and started work as a messenger boy. At the age of twenty-four he had become superintendent of the Pennsylvania Railroad's Western Division. By his middle thirties he was ready, and so were the circumstances, for the beginning of his great steel career.

Carnegie and Pittsburgh rose to fame together. This spectacularly-sited town in Western Pennsylvania, which had begun life as a British fort in the eighteenth century and had been an iron centre, although not of unusual importance, for the previous seventy years, was the perfect focus for the new industry. There was local ore, in adequate quantities and of the quality which was then usual ; so the area was not disqualified on this ground. More positively, it possessed the cheapest, most abundant and most suitable supplies of bituminous coal in the nation. That which came from Connellsville, 40 miles to the south-east, was particularly famous for its fine coking qualities. Furthermore, Pittsburgh's position and communications were ideally suited to the needs of the period. It was not too far from the settled eastern seaboard, but it looked west, towards the developing territories, and it had excellent facilities for water traffic.

The Alleghany and the Monangahela flow down from the Appalachian Mountains to meet at Pittsburgh Point and to bound the downtown area to which wealth subsequently gave the sobriquet of the Golden Triangle. Down these rivers were transported the raw materials of Pittsburgh industry. Down the Ohio, which they form when they meet and which in turn flows into the Mississippi (and this has water communication with the whole of the centre of the United States), was transported much of the finished steel.

These were the potentialities which Carnegie capitalised. Conditioned by his earlier experiences, he kept the prosperity of his companies and himself closely linked with the rapidly expanding railways. The rewards were substantial. By 1900, total United States steel production amounted to 9,000,000 tons, of which more than half came from the Pittsburgh area, and the Carnegie empire, built up partly by expansion and partly by amalgamation (that with the coke interests of H. C. Frick was the most famous), had attained a value of 400,000,000 dollars.

This growth would have been impossible if the industry had remained dependent upon local low-grade ores. The discovery and exploitation of large surface deposits, mostly containing more than 50 per cent. of iron, in northern Minnesota and Wisconsin removed the difficulty. The deposits were close to Lake Superior and could consequently be shipped to any point on the Great Lakes with great ease and at low cost. This meant that the Pittsburgh area remained reasonably economical. From Conneaut, on Lake Erie, one of the great receiving points for Lake Superior ore, only a rail haul of two miles remained. The cost of this haul was not crippling, but neither was it negligible, and from the time, in the early '80's, when ore shipped from Duluth became of primary importance, the locational advantages of sites in Western Pennsylvania became less complete. Lakeside plants could get their ore more cheaply, and as a result there began a great growth of capacity in the Chicago area, as well as at lesser centres like Cleveland and Buffalo. The coal was not as cheap as at Pittsburgh, but saving on ore, coupled with greater proximity to new markets, compensated for this.

By the turn of the century the Great Lakes region was producing about 10 per cent. of the nation's total steel output, and the Federal Steel Company, the principal Chicago concern, was a power in the industry. Judge Gary, the president of this company, took the most prominent part in the negotiations which led J. Pierpont Morgan to buy out Andrew Carnegie (who wished to turn from steel to philanthropy) and to

(Continued on following page)

AMERICA'S STEEL INDUSTRY

ACTIVITY IN THE OPEN-HEARTH BUILDING: The charging floor in the building at the Gary Steel Works in Indiana. One of the furnaces can be seen receiving a charge of molten iron, which had come from one of the Gary Works' twelve blast furnaces in a ladle car.

A GIANT LADLE FEEDS THE OPEN HEARTH: A hundred tons of molten iron flowing into the furnace from the hot metal ladle, at the Homestead District Works in Munhall, Pennsylvania. With an accompanying charge of cold scrap, the molten iron then "cooks" for ten hours.

A BESSEMER CONVERTER IN BLAST: The converter developed by the nineteenth-century British scientist, Sir Henry Bessemer, in use at the Gary Works. On right, a second converter is seen being charged with molten iron.

(*Continued from previous page*)

amalgamate his concerns with those of Gary and with a number of other companies, of which the most prominent was the American Steel and Wire Company, to form the giant United States Steel Corporation. Morgan provided the finance, but as soon as the amalgamation was completed, in 1901, Gary and Charles M. Schwab, a former associate of Carnegie's, stood out as the controllers of the new Corporation.

What they controlled, then as now, was the greatest private concern in the world. More than 60 per cent. of the steel capacity of the world's greatest steel-producing nation was concentrated in their hands. To this capacity they proceeded quickly to add. In 1907 a huge new plant was started amongst the sand-dunes of the Lake Michigan shore. To-day the town of Gary, Indiana, has grown around it, and it is the largest single steelworks in the world, with an annual capacity of 6,000,000 tons. In the same year, U.S. Steel acquired interests in the principal steel-making area of the south, at Birmingham, Alabama. Here, where the industry had developed slowly from the years immediately following the Civil War, raw material conditions were more favourable than anywhere else in the country. Coal, local ore and limestone were all on the spot. But, although the entry of U.S. Steel into the region led to some development, the relatively small size of the southern market has restricted the rate of expansion here to below that for the nation as a whole.

Despite these and other important developments—at Duluth in 1910, in the San Francisco area between the wars, and at Geneva, Utah, where, during the Second World War, the largest mill west of the Mississippi was constructed—U.S. Steel has not been a predatory giant. Between 1901 and 1951 its total annual capacity trebled. But its share of the total national output was halved. Big Steel, as the U.S. Steel Corporation is commonly called, became relatively smaller, and Little Steel, the name given not to the really small companies but to the four or five which rank immediately after the giant, relatively larger. Comprising this latter category, by customary definition, are Bethlehem, Republic, Youngstown Sheet and Tube, Jones and Loughlin, and Inland. Together they now have a yearly output capacity of 39,000,000 tons, or 35 per cent. of the national total.

Why have they made these relative gains? Is it because U.S. Steel, like some antediluvian creature, has become too big for energy and adaptability? Despite the supporting fact that Big Steel has not responded as fully as some of its rivals to the increased relative importance of the demand for strip steel, consequent upon the development of the motor a... household-appliance industries, this is not a co... vincing explanation. In recent decades U.S. Steel h... shown some signs of the urbanity of middle-age and ... thoroughly established position. In the late '30's, f... example, it avoided strife by giving an early recognit... to the Steelworkers' Organising Committee, which la... became the United Steelworkers of America. Litt... Steel, and most notably the Republic Steel Corporati... on the other hand, fought collective bargaining m... bitterly through a long-drawn-out strike.

But urbanity is not the same as stagnation, a... there is no evidence from inside that U.S. Steel ... lacking in either efficiency or dynamism. Its declini... share of the nation's steel production has been large... a matter of deliberate choice. Its leaders have be... nervous of the charge of monopoly, and, beyond t... size necessary to achieve the fullest economies of sca... have been unattracted by control for its own sake ov... as large a share as possible of the whole industry; a... they have found compensation for the relative declin... of their Corporation's position in steel by presiding ov... its expansion into a whole network of other industri...

As in other countries, steel in America has be... more subject than most industries to cyclical fluctu... tions. In 1929 output was 56,000,000 tons; in 1932 i...

BRINGING IN THE ORE BY STEAMSHIP : The *Cason J. Calloway*, one of the ore carriers of the United States Steel Corporation's Pittsburgh Steamship Division. Ore from deposits in Northern Minnesota and Wisconsin are brought across the Great Lakes to the steelworks which hug Lake Superior and Lake Erie, or to those on the great rivers which run into the Lakes.

COKE IS ONE OF THE STEEL INDUSTRY'S MAJOR BY-PRODUCTS : Burning coke being pushed from one of the ovens in a battery of coke-producing units at the Clairton Coke Works, Pennsylvania.

ELECTRICITY PLAYS ITS PART IN PRODUCTION : An electric furnace pouring at the Duquesne Works near Pittsburgh, Pennsylvania. This up-to-date furnace, which is used principally for the production of stainless steel and other alloy steels, is seen as it is being tilted for pouring.

AT A ROLLING MILL : An ingot being kneaded into a bloom at the Columbia-Geneva plant at Pittsburgh, California. The white-hot steel is rolled back and forth through grooves. Each groove is somewhat smaller than the one before, so that by successive rolling the shape of the ingot can be altered as desired.

was down to 13,000,000 tons. For the past twelve years, however, the industry has been more free from such restrictions on its progress than ever before in its history. Indeed, Government doubts as to whether the industry was expanding fast enough to meet the actual and future level of demand have been the cause of a major dispute between Washington and the steel leaders. But the rate of expansion which has taken place, whether fully adequate or not, has been sufficient to raise fears about future supplies of iron ore. In the sixty or seventy years up to 1950, 2¼ billion tons had been mined and shipped from the Lake Superior region. Half a billion tons of this had been used during the four years of the Second World War. Duluth has been made the second largest port in the nation, and the Sault Sainte Marie locks, which connect Lake Superior with Lake Michigan and Lake Huron, have come to handle as much traffic as the Suez and Panama Canals combined. This massive rate of extraction has not yet exhausted the supplies of high-grade ore in the region. But it has made this a foreseeable possibility, and has created increasing interest in domestic low-grade ores combined with an intensification of the search for high-grade sources overseas.

The domestic low-grade ores which are now being used to an increasing extent require treatment before they can be shipped to the blast furnaces. A quarter of the ore exported from the Lake Superior region has now been so treated, and there has also been a reversion to the use, after "benefication," of similar grades of ore to be found in New York State, New Jersey and Eastern Pennsylvania. Taconite, a hard rock containing 25 to 30 per cent. iron, has also been found subject to "benefication," and although, in this case, it is an expensive process, the resultant concentrate has a higher iron content than the best natural ore.

Overseas, there have been two main fields of activity. In Venezuela, U.S. Steel prospectors struck a very rich deposit towards the end of 1946. About 70 miles south of the Orinoco River their magnetometer showed a higher response than had been shown anywhere else in the world. Subsequent investigations have not destroyed this early promise. The ore has proved to be very rich—about 60 per cent. iron—and the quantities available about 400,000,000 tons. Shipment has now begun. The Little Steel companies have concentrated on Canada. On the borders of Quebec and Labrador, in very rugged country, a field of equal importance is being developed by them, involving the construction of a 370-mile highway to the St. Lawrence River. Developments are also taking place in Liberia.

These changes in the sources of ore supplies will inevitably affect the future locational pattern of the industry. Indeed, in one striking respect they have already done so. In the past two years an entirely new and completely integrated mill has been built on the Delaware River, about 20 miles from Philadelphia. This new Fairless Works, with an annual capacity of 1,600,000 ingot tons, is designed to operate on Venezuelan ores which can be shipped right into it without any rail costs. It may well be the harbinger of other major developments on the Atlantic seaboard. If so, the American steel industry will have completed a full cycle. It will be returning, with its modern projects, to the area which was its cradle. Across the river from the Fairless plant, symbolically enough, is Trenton, New Jersey, where in 1734 the first steelworks in the continent was established.

What is likely to happen to steel-making in the areas which have come to prominence in the intermediate period, particularly Chicago? In recent years this district has been gaining in capacity more rapidly than any other. In 1953, for the first time, its capacity has been only a fraction of 1 per cent. below that of the Pittsburgh region. Is it, nevertheless, doomed from a long-term point of view now that the emphasis is shifting away from the Lake Superior ores? The most likely answer is that its position is comparable with that of Pittsburgh in the last two decades of the nineteenth century, after the Minnesotan and Wisconsin ore-fields had been opened up. Already, in its period of greater relative expansion, its natural advantages are being overtaken by those of other regions. But its traditions, its proximity to important markets and its skilled labour remain. If the American steel output continues to expand, the Chicago plants will expand with it. But their relative position may well decline, yielding place to new, tide-water mills. Such developments are inevitable in a dynamic industry; and this the United States steel industry has without doubt shown itself to be.

THE COMET II SETS OFF ON A RECORD-BREAKING FLIGHT : The de Havilland jet airliner on the runway at Hatfield in Hertfordshire before taking-off just after dawn. Piloted by Group-Captain John Cunningham, de Havilland's Chief test pilot, the Comet II set up a new speed record between London and Khartoum. The flight, in a time of 6 hrs. 24 mins. at an average speed of 480 m.p.h., beat by over 8 hours the previous record, held by an R.A.F. Avro Lincoln. The aircraft is the first production model of the type that will be delivered to British Overseas Airways Corporation in the spring. In the Sudan the airliner is now undergoing a series of tropical tests, the last of the aircraft's exhaustive trials.

A RECORD FOR THE NEW COMET

The De Havilland Comet II Jet Airliner made a Record Flight to the Sudan, where it is now Undergoing Tropical Tests

LAST-MINUTE CHECK-UP AT HATFIELD : The Comet II not long before it set off on the 3,000-mile journey to Khartoum. The flight was observed and timed by representatives of the Sudan Civil Aviation Branch.

THE NEW COMET HEADED FOR KHARTOUM : The Series Two Comet airliner shortly after taking off from Hatfield. Conditions for the flight were good. Among the technicians on the airliner was a representative of the Air Registration Board, the body responsible for the airworthiness requirements for British civil aircraft.

PILOT AND CO-PILOT : Group-Captain John Cunningham, right, and Mr. Peter Bugge, before boarding the Comet II in England. Group-Captain Cunningham was a former night-fighter pilot who earned the name of " Cat's Eyes " for his exploits. Mr. Bugge, who was born in Norway, flew with the R.A.F. during the war.

BRITAIN'S ATOM PLANTS

IN LESS THAN FIVE YEARS AN INDUSTRY WORTH MILLIONS HAS BEEN ESTABLISHED

On left—

THE WINDSCALE PLUTONIUM FACTORY AT SELLAFIELD, CUMBERLAND: The building of this factory typifies the remarkable efforts made since 1946 to establish Britain's atomic energy industry. The chimney-stacks from the two piles are 415 ft. high and are now the principal landmarks of the north-west Lake District. The piles and stacks each weigh some 57,000 tons, and to guard against earth subsidence, had to be built on a gigantic concrete mat, 10 ft. thick and measuring 200 ft. by 100 ft.; the piles had to be set in the concrete to an accuracy of one-hundredth of an inch. The plant is used for separating plutonium from uranium. The scientists who designed the plant had first to get their knowledge of the chemistry of plutonium from a piece weighing only 20 milligrams—enough to cover a pinhead.

IN 194.. British scientists were far enough advanced in theoretical knowledge of nuclear energy to start, under the guise of the Directorate of Tube Alloys, a project to make an atom bomb. Two years later, owing to the pressures of war, they pooled their knowledge with the Americans and the British moved lock, stock and barrel to work with them in the United States. The result, in 1945, was Hiroshima. However, on the outbreak of peace, the Anglo-American co-operation on nuclear energy projects ended. Congress passed the McMahon Act, which virtually meant that Britain was not to share in the technical "know-how" that the Americans had acquired. As far as the industrial processes of making fissile material were concerned, Britain had to start from scratch.

Obviously, Britain, a highly-industrialised country with large military commitments, could not afford to lag behind in mastering this terrific source of military and industrial power. In 1946, then, twelve men and women, under Sir (then Mr.) Christopher Hinton, moved into offices at Risley, Lancashire, to form the nucleus of the Production Division of the Ministry of Supply's Atomic Energy Division. Only one had had previous experience of working (in Canada) in an atomic energy plant; he had to explain to the rest what it was all about.

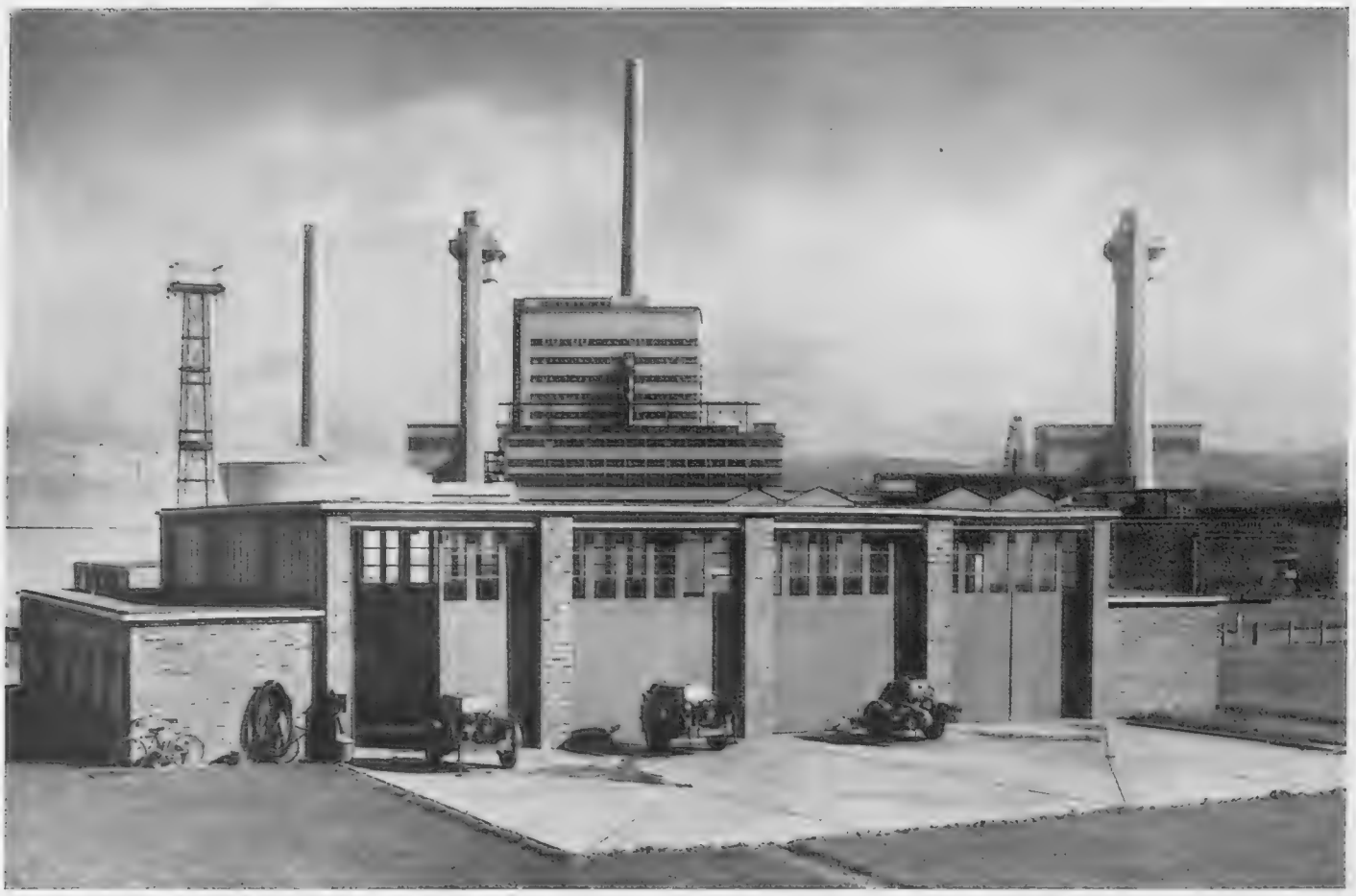
The task facing the group was put quite simply: namely, they had to produce annually a certain quantity of plutonium, to a given specification, in water-cooled piles. But this simple instruction involved elaborate and costly production techniques which first had to be discovered by experiment; it involved the creation of an entire new industry. How it was done is told simply and well by Mr. K. E. B. Jay, principal scientific officer at Harwell, in *Britain's Atomic Factories*, published last week by the Stationery Office at 5s.

To produce fissile material, uranium has first to be extracted from its ore, either in the form of metal or as uranium hexafluoride, a gaseous compound of fluorine. Next the metal has to be irradiated in piles and the artificial fissile element plutonium grown atom by atom from the 238 isotope of uranium. Lastly, the 235 isotope of uranium, which is needed to refresh the piles, has to be obtained by passing the hexafluoride through a gaseous diffusion plant.

The first task, then, was to build a plant to produce uranium, the basic atomic fuel. Early in 1946 a site was chosen at Springfields, Lancashire. Only laboratory work on uranium refining had been carried out,

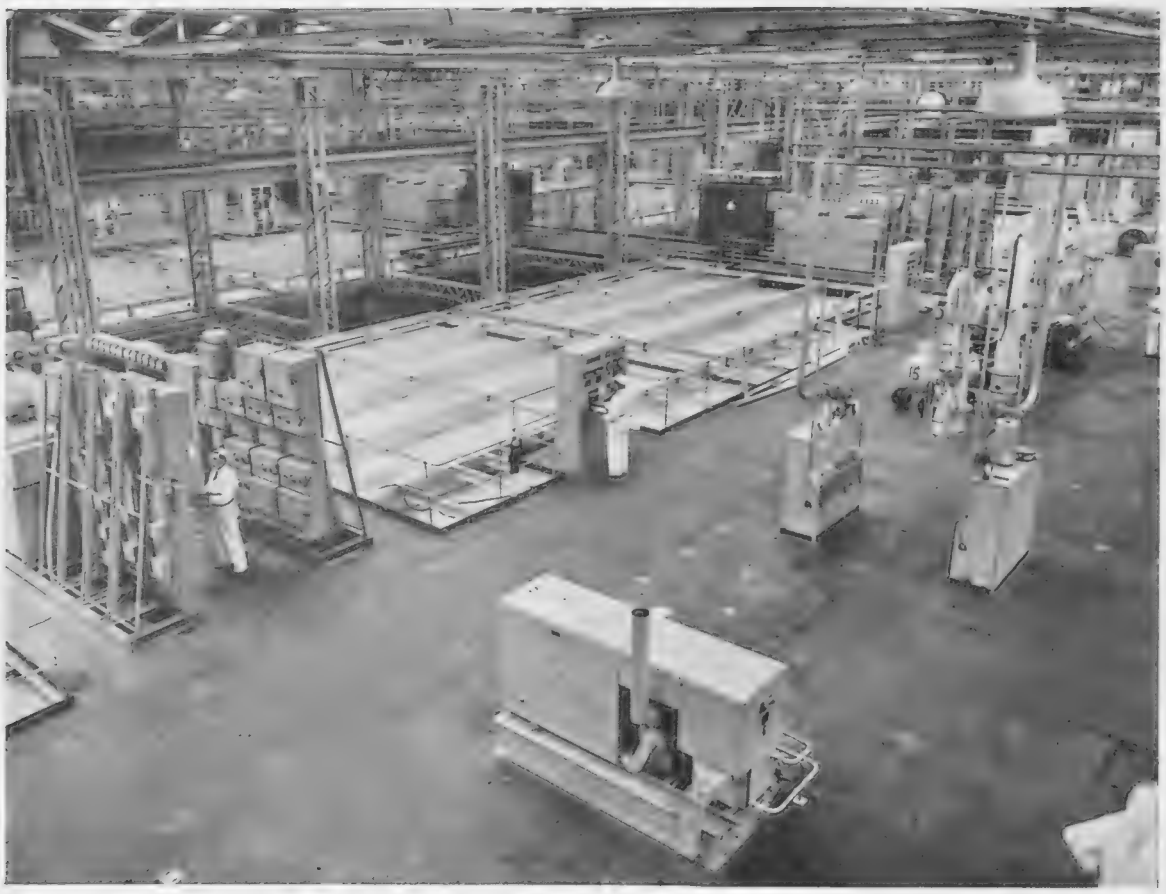
(*Continued on following page*)

BUILT-IN GLOVES FOR WORK IN A "HOT" LABORATORY: "Hot" is the term for a laboratory in which one works with radioactive materials. These gloves and boxes are to protect workers from substances emitting alpha-particles. The standards of protection in Britain's atom factories are extremely high; the precautions against radiation are such that a worker has no chance of injury in thirty or forty years of work.



THE FIRE STATION AT WINDSCALE: Because of the heat generated in the piles, fire precautions and equipment are elaborate. At some of the atom works, the factories can be flooded at the touch of a button with solutions capable of extinguishing the worst fire. Should the pile overheat and melt the aluminium can surrounding a slug of uranium, there are several safety devices which can detect immediately a hole invisible to the naked eye.

BRITAIN'S ATOM PLANTS: A SWIFT ACHIEVEMENT



THE CONTROL DECK OF THE CAPENHURST FACTORY IN CHESHIRE: This factory produces Uranium 235, the isotope used in fission bombs. Natural uranium, which consists of the two isotopes 238 and 235, after conversion into uranium hexafluoride gas is here separated into its two components by a repeated diffusion process.

(*Continued from previous page*)

and there was no time to build a prototype pilot plant. Yet the Springfields factory came into production two-and-a-half years after the first meeting at Risley.

Refining uranium is mainly a chemical problem, not one of nuclear physics. What happens at Springfield is that the ore arrives in lumps, sealed in drums, mainly from the Belgian Congo. It is first crushed, then ground to a fine powder. The powder is then dissolved in a mixture of acids, kept warm by steam circulating round the dissolvers, which are stainless steel tanks 6 ft. in diameter and 8 ft. deep, capable of holding over 1,000 gallons of mixture. Once all is dissolved, the other metals present in the ore as impurities (radium is one of them) are precipitated by adding barium carbonate. This precipitate is packed in drums and sent back to the suppliers of the ore to extract what they can from it; the factory's contract is only for the uranium in the ore. The solution containing uranium then has hydrogen peroxide added to it, which precipitates the uranium as crude uranium oxide. The oxide is then dissolved in nitric acid, then evaporated, the resulting uranyl nitrate being washed in ether. At this stage the uranium solution is in its highest state of purity. Later it goes through further chemical and metallurgical processes until it is cast into rods, which are enclosed in an aluminium can, for use in piles.

In 1947, before the Springfields factory was finished, work was started on the Risley organisation's second project, the Windscale Works in Cumberland. Here, plutonium is produced from uranium in two atomic piles and afterwards separated from the uranium in a gigantic chemical plant. Before designing the plant, the scientists first had to learn the chemistry of plutonium, then almost unknown to them. All the plutonium available for experiment amounted to only 20 milligrams—enough to cover a pinhead. From this minute quantity the fundamental processes on which the great Windscale plant operates were worked out.

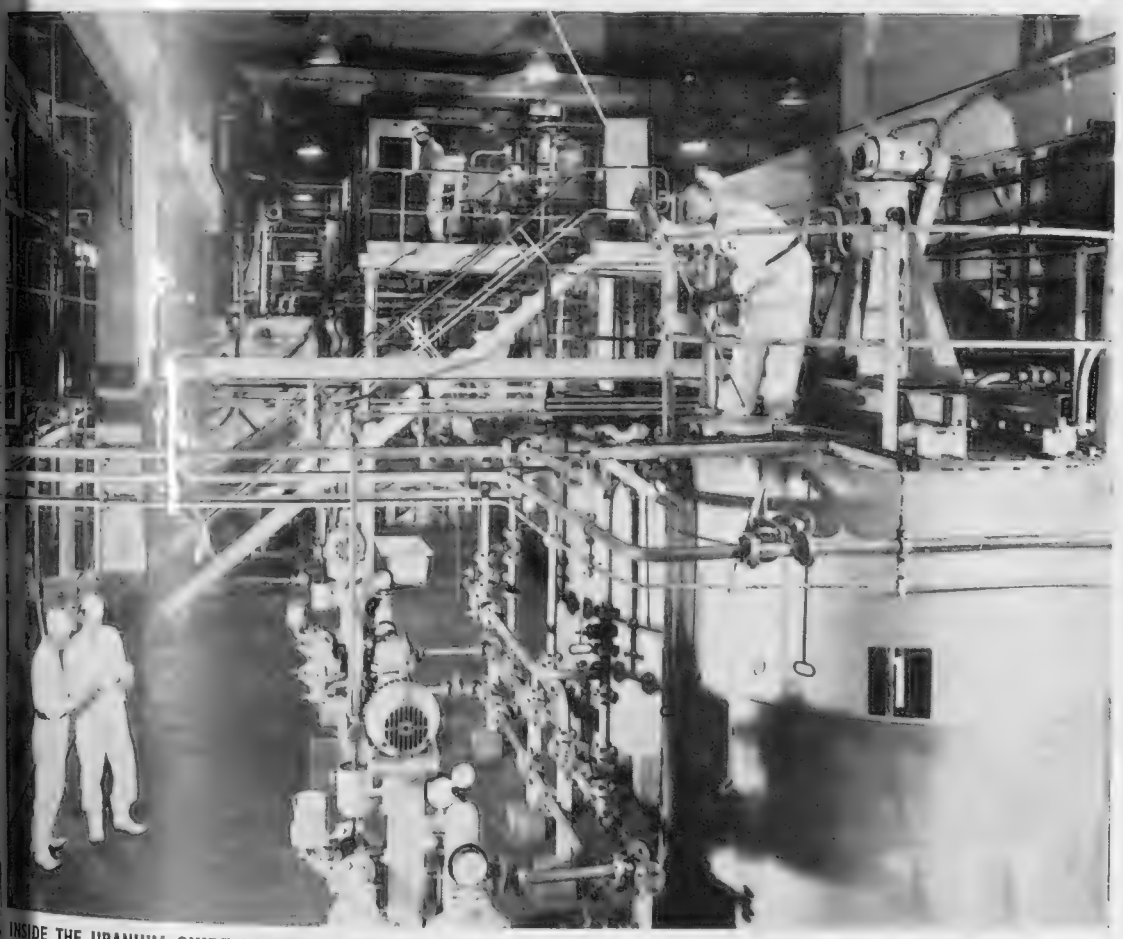
Plutonium 239 is formed from uranium 238 by the following process: the uranium 238 nucleus absorbs a neutron, forming another isotope of uranium of mass

THE PILE CONTROL ROOM AT WINDSCALE: The desk in control room is the nerve centre of the pile. operator can watch its behaviour recorded on instruments. When the pile is running the co room is subject to intense radioactivity; therefore surrounded by a wall and roof of concrete several thick. In an emergency two movements of the m shut-down switch will throw the pile out of ac

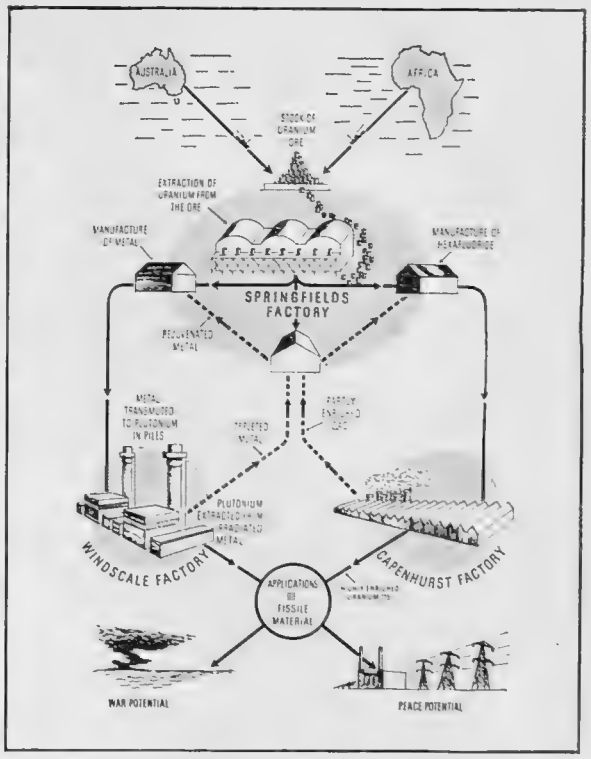
URANIUM REFINERY AT SPRINGFIELDS, NEAR PRESTON: uranium ore, most of which comes from the B Congo, arrives in lumps in sealed drums, and is crushed and then powdered. The uranium is extracted by various chemical processes and cast ingots. The powdering of the ore is liable to dangerous air pollution; in the picture above is a cyclone, used to extract all dust from the cru

RADIATION MONITORS IN USE : These highly sensitive contamination monitors are installed in all the changing rooms at Windscale, which workers must use before leaving. There are two counters to check the hands separately for alpha and beta-gamma contamination; similarly there are two probes for checking clothes.

PIPELINES FROM WINDSCALE TO THE SEA : Some of the wastes from Windscale are highly active; in radioactivity they equal several times the entire stock of radium in the world's hospitals. The highly active effluents are stored indefinitely; the medium active are stored until they have lost much of their strength. Then they are piped into the sea and discharged two miles off the coast.



INSIDE THE URANIUM OXIDE PLANT AT SPRINGFIELDS : In this building the crushed ore is ground to a powder, then dissolved in a mixture of acids. The other elements in the ore are extracted first by precipitation and returned to the suppliers. The uranium in the remaining liquid is precipitated as crude uranium oxide.



HOW THE ORGANISATION WORKS : The three factories are closely integrated and all controlled from the headquarters of the atomic energy organisation at Risley, Lancashire. It has been estimated that in twenty years nuclear fuel could replace coal as a means of generating electric power throughout the United Kingdom.

number 239; this isotope is radioactive and breaks down by emitting a beta-particle to form the 239 isotope of the artificial element neptunium; neptunium 239 is also an unstable element which again breaks down with the emission of a beta-particle to form plutonium 239, which is relatively stable. This intensely radioactive process goes on in the pile, an arrangement of the uranium rods in a core of graphite, which is enclosed in several feet of concrete to protect workers from harmful radiations. The uranium slugs, highly irradiated, are then removed from the pile and the plutonium chemically separated.

Because of the intense radioactivity from the material the separation plant, encased in concrete, had to be designed so that it could work throughout its life by remote control: there could be no possibility of subsequent repairs, adjustments or even normal maintenance work. The concrete shell of the plant is, in fact, pierced only by measuring instruments. It has no pumps, valves or other gadgets liable to break down; it consists simply of tanks, columns, and miles of connecting pipes, all built of a new type of stainless steel specially developed by the industry. Four-and-a-half years after building was commenced, the Windscales factory was producing its first plutonium.

The Risley organisation's third factory, the gaseous diffusion plant at Capenhurst, Cheshire, was decided on towards the end of 1947. Its purpose was to separate uranium 235 from its 238 isotope. Uranium 235 is a more effective charge for atom bombs than 238, and is also needed to recharge the uranium 238 used in the plutonium manufacturing process. As both isotopes have the same chemical properties, it was impossible to separate them chemically. The gaseous diffusion process involves passing the uranium as a gaseous compound—hexafluoride—through a series of porous membrane filters. This method depends for its action on the fact that, when a gas diffuses through the tiny holes of a porous membrane, the lighter molecules (of 235) come through faster than the heavier ones (of 238). In effect, the Capenhurst factory repeats this process again and again until the separation is complete. The plant includes many miles of pipes, connected by thousands of joints, all of which, with the compressors, filters, and controlling instruments, must be sealed against the tiniest leak of air and evacuated as carefully as a wireless valve. The plant also has to be kept at a tropical temperature, to prevent the gas from solidifying.

Summing up, Mr. Jay says the organisation's achievement in establishing the nuclear energy factories "will stand comparison with any other in the history of British industry." In dealing with the future of the new industry, he says that scientists and engineers are convinced that nuclear fuel could ultimately replace coal, at a comparable cost, to generate electrical power—perhaps within twenty years, though the initial capital cost would be tremendous. Already an experimental atomic power station is being built at Calder Hall, alongside the Windscale works, which will probably be the first of its kind in the world.

SNOW AND ICE IN NEW YORK

An Exceptional Cold Wave Gave the City Ten Inches of Snow and Froze Up Much of the Hudson River

The heaviest fall of snow in five years gave New York a charming Christmas look, but some three weeks too late. Less agreeable was the disruption of traffic that the 10 ins. of snow, falling in the space of forty-one hours, caused. Thousands of men using snow-ploughs were employed to clear the streets, but even then cars and buses found it difficult to make progress. Many New Yorkers and "Commuters" found themselves going to work on foot, and those travelling on the underground railway found that it was freezing cold.

A drop of 22 degs. in the temperature in less than ten hours also froze up a large section of New York's Hudson River. The Coast Guard ice-breakers were brought out from their Brooklyn shipyards to go to the rescue of vessels completely hemmed in by icefloes, even as far up the river as the New York State capital of Albany. Though the sun shone by day, and made conditions slushy, the low temperatures continued during the nights, and for some days New Yorkers were wondering what the rest of the winter might bring after this first taste of it.

THE WHITE MANHATTAN SKYLINE: The lower end of Manhattan Island under a 10-in. blanket of snow, the result of New York's heaviest snowfall in five years. The snow-covered areas in the foreground are the Battery and South Ferry, where the fall of snow was heaviest. On the right is the East River and its piers.

A PERILOUS FERRY SERVICE ON THE HUDSON: The Newburgh ferry boats slowly making their passage through icefloes on the Hudson River in New York State. A sudden drop in temperature, accompanied by icy winds from Canada, caused complete freezing-up on many parts of the river in less than ten hours.

WINTER IN NEW YORK'S CENTRAL PARK: A view of the great park after the heavy fall of snow. In the right foreground of the park can be seen the Wollman Ice Skating Rink, and to its right the Zoo. In the distance is the reservoir.

On right—

ICE-BOUND ON THE HUDSON RIVER: Huge icepacks completely wedged in this ship on the Hudson River near Saugerites, New York. The Coast Guard sent ice-breakers up the Hudson as far as Albany to extricate ice-bound ships.

FIGHTING THE WINTER TIDES

The Battle Against the Sea Along the North Kent and Essex Coasts, where Strong Defence Walls are being Built

WORK IN PROGRESS ON THE ERECTION OF A NEW CONCRETE SEA WALL BETWEEN RECULVER AND BIRCHINGTON, ON THE NORTH KENT COAST : Buffeted by heavy wind and rain, workmen are seen preparing the shuttering, into which concrete will be poured. The sea wall, which is being built as a guard against further inundations of the sea, is designed to link up with defences further along the coast. Much of the whole defence area is being given additional protection by a chalk wall which has been erected to protect the railway. Stocks of sand-bags are being held in readiness all along the coast in case of any emergency.

A WORKMAN ENGAGED IN THE CONSTRUCTION OF THE FRONT APRON OF THE HUGE PERMANENT CONCRETE WALL NEAR BIRCHINGTON, KENT : Since last year's tragic flooding much work has been carried out on the coast defences of North Kent and so far the temporary walls have held firm.

On right—

THE FORTRESS-LIKE APPEARANCE OF THE NEW DEFENCES : A view of the partly-finished concrete wall near Birchington.

PROTECTING CANVEY ISLAND, ESSEX, FROM THE SEA : A section of the wall along the esplanade, and *on left*, work in progress on a further stretch near Small Gains Creek. Gaps have been left to enable holiday makers to reach the sea.

During the past six months an army of 450 men has converted Canvey Island into a fortress against the sea—a fortress which experts believe will be impregnable against the forces of nature. For the 10,000 people living on the island this is good news, and they are confident that their homes will never again be the scene of a repetition of the disastrous floods of a year ago. The levels of the defence walls have been raised 3 ft. above the height at which the raging seas swept across the island last year, and two gigantic dams now bar the sea's entry at Tewken Creek and Small Gains Creek, vulnerable spots in the eastern half of the island. In addition, the width and height of the earthwork defences on the west side of the island have also been doubled, or even trebled, and, during the recent spring tides, the water did not rise higher than within 7 to 9 ft. of the top of the new wall. The gigantic scale of this work can be judged by the amount of some of the materials used, which include 2,000 tons of steel sheet piling ; 350,000 blocks of concrete and 550,000 cub. yards of clay. The cost of the work, which is being carried out by the Essex Rivers Board, is expected to be £500,000.

TAPPING CONCRETE BLOCKS INTO POSITION ON THE CLAY BASE OF THE CANVEY ISLAND WALL : They are later sealed with bitumen.

THE ALPINE SUMMER HOME OF THE SNOWFINCH AND THE BLACK REDSTART: Here, 9,000 ft. above sea-level, with the Matterhorn in the background, is one of the areas which are a summer nesting-place of snowfinches and black redstarts. The snowfinch, which is slightly larger than a greenfinch, usually nests in the rocks, being a shy bird, but occasionally it uses buildings high in the hills, where black redstarts also nest.

WILD LIFE IN THE SWISS ALPS

Around 10,000 Feet above Sea-level Live a Wide Variety of Animals and Birds, including one Well Known to Londoners

By SETON GORDON

THE visitor from Britain to the Alps of Switzerland soon realises that the Swiss, although grand people in many respects, are not bird-minded. As an example of this, I was shown, through a telescope, the eyrie of the only pair of golden eagles inhabiting the Zermatt area of the valley of the Visp—a glacier torrent that pours its icy waters through narrow gorges, spray-filled and rainbow-tinted. It was July of the year 1953, and I was proudly told that the week before, hunters had climbed, very early three mornings in succession, to that eagle's eyrie in order to shoot the parent eagles when they arrived with food for the young. Since the old eagles did not oblige them, the hunters had perforce to be content with shooting the eaglet, which was still in white down, the feather tips just showing.

This dislike of the eagle made me realise that in the Scottish Highlands the golden eagle is treated very differently, for here a reward of £10 is given by the Royal Society for the Protection of Birds to the shepherd or deer-stalker on whose ground a pair of eagles are successful in bringing up their young. When my wife asked the Swiss hunter why the eagle should be thus persecuted, he replied that it was a bad bird. It killed marmots and hares, both prized by the local hunters. An eagle picked up a hare he was following in thick mist and carried it off. He never forgot, or forgave, that. The eagle, he said, also hunted marmots, and he himself had seen a golden eagle lift and bear off a full-grown marmot. I said that there were marmots in plenty for all the hunters and for the one pair of golden eagles in the valley. No, he said, there cannot be too many marmots for us. The marmot is very good to eat and makes delicious soup. Besides, its fur is valuable. The hunters were paid by furriers in Zürich 350 francs for marmot skins sufficient to make a lady's fur coat, which, they said, was sold in Zürich shops for as much as 1,000 francs. When I reminded him that in certain of the Swiss cantons the golden eagle is protected by law, he said this was the case in the Zermatt area also, yet here the law was apparently broken with impunity.

One interesting thing he told me of the golden eagle. In his own words, "The golden eagle is not a mountaineer." It had never been seen, even in fine weather, as high as the Matterhorn or Monte Rosa, and had rarely been seen even at 10,000 ft., although in summer the marmot has frequently been seen at this height. All who have wandered on the Alps below the line of perpetual snow have seen that quaint and attractive beaver-like creature, the marmot. In Britain, no marmot is found, but there are few countries throughout the world where one of its races is not seen.

The Swiss marmot hibernates in its burrow in winter, for its home is usually above the tree-line, which is around 7,000 ft., and snow lies deep here for months. The young are born in late spring, and in July I watched for some time a family of marmots beside their burrow in a corrie among the hills at a height of just under 8,000 ft. Both father and mother marmot were outside the burrow, indulging in a playful wrestling bout, swaying together on their hind legs and biting each other about the neck. After a time, one of their half-grown children joined in the game and wrestled fiercely with its mother, who permitted this familiarity for a minute or two, but finally lost patience and sent the youngster flying. Marmots live in scattered colonies and although they are not timid, they are quick to notice the approach of a human intruder. Their alarm-cry is a shrill whistle of astonishing power.

Last summer my wife and I watched a mar... feeding near a clear stream in whose cool spray ... viola, gentian and the creeping purple mou... saxifrage. The marmot hurried from one viol... pansy to another, dexterously nipping off the sce... flower and masticating it with relish. The gentian... beautiful in our eyes, were without scent, and not ... of them was eaten. The marmot also ate the s... green grass and other Alpine plants. Its flattened ... black-tipped, was sometimes waved in the air. ... animal of heavy, rather ungainly appearance, ... nevertheless was surprisingly active; leaped ... over the stream, and ran as easily uphill as d... No wonder, we thought, that the marmot shou... esteemed for soup if its food is the petals of sca... flowers.

But I suspect that this animal on occasion ... a more substantial meal off the eggs, or young ... some small ground-nesting bird, such as the w... pipit. This bird is not unlike our meadow-pipit ... nests in a similar site—beneath a juniper bush ... a grassy tussock on a steep bank where it is safe ... the grazing cattle which go up to the mo... pastures at the beginning of July. One day I wa... a marmot being furiously attacked by a water ... the small aerial assailant hov... over the animal's head and m... determined stoops close to its ...

On left—A BLACK REDSTART IN A BOMBED LONDON BUILDING: These birds, apart from inhabiting high Alpine villages, have also colonised some of the bombed buildings in the City of London and even nest on St. Paul's. *On right*—A CARRION CROW WITH YOUNG: In the Alps the carrion crow takes the place of the grey crow of the Scottish Highlands.

If the golden eagle is n... mountaineer, the Alpine chou... certainly one. The British chou... jackdaw-like bird but with re... and red legs, nests in sea cliffs, ... also in caves high on the h... North Wales. It is a skilled ... but nothing like so skilled a fli... the Alpine chough, which has a ... lemon-tinted bill that is almost w... This bird probably flies higher ... any bird of the Alps, yet is so ... fiding that it alights in the ... beside the mountaineer lunchin... the narrow summit of the great ... fearsome Matterhorn, or on the ... higher snowy dome of Monte ... and shares its frugal lunch ... the eternal snows, where the si... is complete except for the rum... avalanches, which pour like ... waterfalls over the cliffs. On Eve... too, the climbers saw the ch... higher than any other bird. ... 1953 expedition saw it at 26,000 ... near the summit of the South

In the Zermatt area the chief haunt of the Alpine chough is the neighbourhood of the Kulm Hotel, perched on the Gornergrat at a height of 10,200 ft. The Gornergrat railway climbs to this height from Zermatt in the valley 5,000 ft. below, and on fine days a considerable number of tourists eat their lunch on the ridge a few hundred yards from the hotel. Choughs are passing almost continuously across the ridge, using the air currents in their soaring with the skill of eagles, and suddenly alighting and gobbling up the remnants of somebody's lunch.

One day I saw a flock of choughs rise from the flower-decked Staffelalp below the mountain inn at Schwarzsee. Rising higher and higher, they wheeled in the lee of the great snowy cone of the Matterhorn. When they were almost level with its summit, at 14,000 ft. altitude, the uprising wind-stream no longer helped them; they then swung off and slanted down to the Gornergrat feeding-ground, accomplishing in little more than a minute the journey which would take a trained mountaineer a hard day's walking, and most climbers two days. It is believed by the men of Zermatt that the chough is very long-lived. An old man who for most of his life was in charge of the telescope on the terrace of the Kulm Hotel claims that he knew one chough by reason of its peculiar markings for fifty summers.

When soaring, the chough has its wing primaries upturned like the eagle. Like the eagle, too, the primary wing-feathers are held well apart, so that the sky may be seen through the spaces; this wide-spacing of the feathers is evidently a soaring technique. The chough when sailing along a ridge is constantly opening and closing its tail as though it were a fan; this also helps it to maintain poise when traversing the constantly changing wind currents and eddies which play upon a rocky hillside.

Perhaps the most attractive bird of the Swiss Alps is the snowfinch. This bird, rather larger than a greenfinch, is conspicuous in flight because of its white wings and white lateral tail-feathers. For a small bird it is a strong flier, and flies up a steep hill-face with no apparent effort and almost as fast as it flies down it. Snowfinches nest in rocky crannies and, although they are shy birds, they often nest in some cranny in a building high amid the hills. Last summer at least two pairs of snowfinches had young in July on the hotel at Gornergrat where, at 10,200 ft., the snow was almost unbroken and in places many feet deep. Because of the snow, the birds were obliged to fly down to lower slopes for food for the young, which could be heard calling loudly in their hidden nests.

There was one amusing incident in connection with this arduous feeding of the young. One of the tourists had eaten an orange and scattered the remains on the ground beneath the hotel. The snowfinch's keen eye saw the yellow discoloration on the snow and, instead of making a long flight for food as was her custom, fluttered to the ground, crammed her bill full of the discarded and sucked orange residue, then returned to the hole above the window, where she fed the unappetising mass to her hungry young. She was evidently not received with enthusiasm on this visit, because she did not again visit the abandoned orange, but flew out of sight down the hill.

The food flights of the snowfinch during the long hours of a July day must be at least 50 miles—perhaps considerably more. One thousand feet below Gornergrat, there were large snowfields but much bare ground on the hill, and here several pairs of snowfinches were courting. The cock bird rose high on his white wings, then swooped at speed to the edge of the snowfield, where his mate was standing. Sometimes two cocks would chase one another, backwards and forwards, twisting and swerving above the snowfields and above the rocky ground.

One day I saw a peregrine falcon soaring high in the blue sky, and the flash of white wings as a snowfinch dived at the fierce bird of prey. I do not think that any other small bird would have had the bravery to attack a peregrine high in the air, without assistance. I do not know what is the highest recorded nest of the snowfinch in Switzerland: I doubt whether there are any higher nesting-sites than on Gornergrat, at 10,200 ft. above the level of the distant sea, which is invisible even from the Matterhorn. Have the birds of the Alps, the snowfinch and the chough, which fly daily above the wide expanses of snow, dazzling beneath the summer sun, special vision in order to guard themselves from snow-blindness? Unless the human mountaineer were to protect his eyes with snow-glasses, he would certainly suffer from snow-blindness after even a single day's walking in snow, yet snowfinch and chough face the snow-glare daily with no ill effect. Birds have what is termed a third eyelid, or nictitating membrane, which can be drawn over the eye at will, and which is semi-transparent. It is possible that during flights over the snow this membrane is brought into use.

A small bird of a size similar to the snowfinch, which has its summer home almost as high on the Alps, is the Alpine accentor. This is an active and busy bird rather inconspicuously plumaged except, when seen at close quarters, for the reddish-brown markings on the flanks. Like the snowfinch, the Alpine accentor nests in crannies of rock, but it does not nest on buildings. The Alpine accentor is double-brooded. In early July, some of the birds had young, while others were mating and pairing preparatory to beginning to rear a second brood. The vertical range of this hardy bird is not known. A friend of mine told me that while climbing the Matterhorn he had heard an individual in song at a height of 12,000 ft.

The black redstart nests on St. Paul's, and has colonised some of the bombed buildings in the City of London. It might not, therefore, be expected that in the Swiss Alps it should nest up to a height of 9,000 ft. above sea-level, and perhaps even higher. It does not, like the snowfinch, confine itself to the high, treeless ground, but nests in buildings of the small townships of the Visp valley, such as Zmütt. I found, in early July, a nest in a low wall in the upland village of Findeln. The cock black redstart is a handsome bird, with brick-red tail, black throat and breast, and white patch on either wing.

The ptarmigan is so essentially a part of the bird life of the Scottish hills that it might be thought that in the Alps also it would be frequently seen. Actually, it is very scarce. During frequent climbs and walks in the Zermatt district, in 1949 and again in 1953, my wife and I saw only one ptarmigan. He was a male bird, and was on gently-sloping ground at a height of 9,000 ft. We watched him feeding on the small green leaves of a plant of *Silene acaulis*; before we had reached the plant he had spirited himself away, nor did we see him again.

In the forests of larch and Cembra pine, the thick-billed nutcracker, a bird of the crow family with broad wings and short, white-edged tail, is sometimes seen flying with undulating flight in family parties just above the tree-tops. The feathers of its plumage are dark brown, flecked with white. The carrion crow takes the place of the grey crow of the Scottish hills, and one day I saw a pair of carrion crows in angry pursuit of that large, long-tailed and broad-winged bird of prey known as the goshawk, which used to nest in the Old Caledonian Forest of Scotland, but which is now extinct as a British species.

Common swifts nest in considerable numbers in Zermatt, and on fine days fly up on the air currents to a height of 10,000 ft., perhaps higher. Curiously enough, the Alpine swift, a larger, white-bellied bird, in Switzerland is not so Alpine in its habits as the common species. I saw a single Alpine swift flying with common swifts up the Findeln valley: its flight was easier and more graceful than that of its companions. Above Zürich I saw several Alpine swifts among a throng of wheeling common swifts. The more powerful, yet leisurely flight distinguished these Alpine swifts rather than their larger size: there was something shearwater-like in their gliding and wheeling.

AN EAGLE FEEDING ITS YOUNG: Eagles in Switzerland are protected, as in Scotland, in some cantons, but the law is rarely observed. Swiss hunters kill them because they prey on marmots and hares, both of which are locally highly prized for the pot. An eagle has been known to carry off a marmot weighing roughly 10 lb.

AN ALPINE MARMOT: The marmot, an attractive beaver-like creature, makes its home in a burrow about 7,000 ft. up and hibernates there during the winter. They are good to eat and make delicious soup. Hunters also get a good price from furriers for the skins.

***On left*—A GOSHAWK: These birds, still found in the Alps, were once inhabitants of the Caledonian Forest, but are now extinct as a British species. *On right*—A PEREGRINE FALCON: Few birds would attack a falcon, but the author once saw a snowfinch do it. These two pictures, and the two at the foot of page 158, are by Eric Hosking.**

A TANKER ENTERS MANCHESTER'S NEW OIL DOCK TO THE ACCOMPANIMENT OF A SALUTE FIRED BY THE ROYAL ARTILLERY: *Above* and *on right*—The 28,000-ton tanker *Velletia* moves to her berth during the opening ceremony of the Port of Manchester's new dock at Eastham. There are four berths, each capable of accommodating a tanker of 30,000 tons.

Britain's Biggest Oil Dock

The Opening of the Queen Elizabeth II Dock at Eastham, Manchester

The new Queen Elizabeth II Dock at Eastham, Manchester, which took four years to build and cost about £5,000,000, is the largest oil dock in Great Britain. Covering an area of 19 acres close to the entrance to the Manchester Ship Canal, it serves the rapidly expanding refinery area at Stanlow, and accommodates tankers of 30,000 tons and over. At last week's impressive opening ceremony the S.T.S. *Velletia*, just arrived from Kuwait with a cargo of 26,000 tons of crude oil, moved forward from the lock to the dock, breaking a ribbon upon entry, and then proceeded direct to her berth. At the same time a sixteen-round salute was fired by the Royal Artillery, twelve R.A.F. Meteors flew overhead, and a fanfare was sounded by trumpeters of the Life Guards. Built by the Manchester Ship Canal Company, the dock incorporates the latest developments for the handling of crude oil and marks a further stage in the growth of Britain's oil refineries, especially along the Mersey. Among those who witnessed the opening ceremony were Sir Leslie Roberts, Chairman of the Manchester Ship Canal Company, and Mr. F. J. Stephens, Managing Director, Shell Petroleum Co., Ltd.

A LONDON-BOUND EXPRESS PASSES THE SCENE OF OPERATIONS AT POTTERS BAR, MIDDLESEX, WHERE ADDITIONAL TRACK IS BEING LAID, AND THE STATION REBUILT: **The work is in connection with a scheme to quadruple the track between Greenford signal-box and Potters Bar, where there are at present only two sets of rails. This will greatly improve the flow of traffic on this stretch of line, since Potters Bar lies on the East Coast route to Scotland.** The laying of the two additional tracks, one on either side of the present lines, has entailed the demolition of the original station, which will be replaced by two island platforms to be reached by subways, with the chief buildings situated in a forecourt. Demolition and reconstruction are progressing simultaneously, and it is hoped that the new track, extending for about ¾-mile, will be ready for use in July and the station completed by the end of the year. The bridge seen in this picture is being widened to 60 ft.

The Changing Scene at Potters Bar

With the Laying of Additional Track this Middlesex Station Undergoes Complete Transformation

DEMOLISHING THE PORTERS' ROOM AT POTTERS BAR STATION: **Despite the reconstruction, trains are continuing to call there. Eventually the station will consist of two island platforms.**

KING GEORGE V AND HIS CONSORT, QUEEN MARY, NOW LIE SIDE BY SIDE IN THE VALHALLA OF THE HOUSE OF WINDSOR: The marble effigy of Queen Mary seen in position on the tomb in the second bay of the nave at the west end of St. George's Chapel. This signifies that the body of her late Majesty has been removed from the Royal vault of the Chapel (where it has rested since her funeral last year) to the tomb of her husband. The effigy was carved by Sir William Reid Dick sixteen years ago, shortly after he had finished work on the figure of King George. It was carved at the special request of Queen Mary, who also asked for space to be left alongside the effigy of her husband. The early completion of the Queen's effigy was in accordance with tradition. King George V, who gave to his dynasty the name of the Royal House of Windsor, was laid to rest in St. George's Chapel in 1936.

QUEEN MARY'S LAST RESTING PLACE

The Marble Effigy in Position Alongside that of King George V, at St. George's Chapel, Windsor

THE POSITION OF THE ROYAL TOMB CLOSE TO THE URSWICK CHANTRY CHAPEL: Just to the left of the pillar is the statue of Leopold I of Belgium, by Boehm. *On right*—A close-up of the two effigies, showing the Queen Consort and her husband wearing the robes and insignia of the Order of the Garter. Behind her Majesty's head is a marble replica of Queen Mary's crown. The newly-completed tomb was seen by the public for the first time last Saturday.

FROM SCOTLAND AND THE COUNTIES

A Pictorial Survey of Home Even

EARL MOUNTBATTEN RECEIVES THE FREEDOM OF THE CITY OF EDINBURGH : At the Usher Hall, Edinburgh, Admiral Earl Mountbatten of Burma and his Countess both had conferred on them the Freedom of the city. The Lord Provost, Sir James Miller, who is seen sitting between the Mountbattens, described him, the last Viceroy of India, as one of the most colourful figures of the twentieth century. He said : "There is a renaissance quality about the Earl and his lady which has struck a chord in the hearts and minds not only of countless millions of their fellow-countrymen but of all who have any claim to be citizens of the world." Lord Mountbatten, after expressing "our joint sense of pride and deep appreciation" of the honour conferred on them, pointed out that his Service association with Edinburgh began in 1916, when he joined the battle-cruiser *Lion* in the Firth of Forth at the age of sixteen. Earlier, in the McEwan Hall, the Earl and Countess had received honorary degrees of doctor of laws of Edinburgh University. *On right*—Earl Mountbatten makes his address on receiving the Freedom.

THE GOTHIC MEMORIAL TO QUEEN ELEANOR OF CASTILE AT CHARING CROSS STATION—NOW OFFICIALLY DECREED TO BE THE CENTRE OF LONDON : The memorial is a conjectural copy of the one removed by Parliament in 1647. The original was erected in 1291 by Edward I to mark the spot where the coffin of his consort, Eleanor of Castile, was last set down on its journey to Westminster Abbey.

A LOCOMOTIVE FOR AUSTRALIA : At Liverpool Docks a new Die electric locomotive is being loaded on to the S.S. Glouces for delivery at Fremantle, Western Australia. Forty-eight these 1,105-h.p. locomotives are being built by Metropoli Vickers for the Western Australian Government Railwa

A LOCOMOTIVE FOR SOUTH KENSINGTON : This road locomotiv built by Aveling and Porter in 1871, has been presente to the South Kensington Science Museum. It arrives the restored, as nearly as possible, to its original condi

THIS IS TO BE THE NEW RIFLE FOR THE BRITISH ARMY : Corporal J. E. Heymer, of the Royal Fusiliers, is seen demonstrating the rifle at the regiment's depot at the Tower of London. The Prime Minister announced last week in the House of Commons that it had been decided that the new rifle, the F.N. 30, developed by the Belgian makers, Fabrique Nationale d'Armes de Guerre, should replace the Lee Enfield No. 4, which was the rifle in general use. One of the F.N. 30's main assets, apart from general handling and firing characteristics, is that it will fire ammunition which will be of a standard size and used by all N.A.T.O. countries.

THE WRECKAGE OF AN R.A.F. VALETTA TRANSPORT FROM WHICH TWELVE PEOPLE ESCAPED : Among the passengers in this aircraft, which crashed in Wiltshire last week, were two women and two children. The navigator was the only person killed. The Valetta, which was carrying two airmen and two women and their children to Istres, near Marseilles, had just taken off from Lyneham Airfield, Wiltshire, when the pilot sent out the May Day distress signal. Ground crews were alerted, but before the pilot could land the plane on the aerodrome, it took a sudden plunge and landed in a near-by field. The aircraft ploughed along the ground and through a hedge before coming to a standstill, and the pilot's cockpit was wrecked. Luckily the aircraft did not catch fire. The fact that only one person was killed is attributed to the fact that the aircraft was fitted with backward-facing seats. On the same day a Yarsity training plane, similar to the Valetta, also crashed in Wiltshire while trying to land at Hullavington airfield. The pilot and the three other members of the crew were killed.

A NEW LIFEBOAT FOR RUNSWICK BAY, YORKSHIRE : The *Elliott Gill*, the new lifeboat for Runswick Bay, arrived recently at its home after having come on its own power from Cowes, where it was built, under its coxswain, Frank Yerrill. The boat is seen leaving the fishing village of Staithes, an artists' resort, where the boat's crew all live, on its way to Runswick Bay.

GENERAL FRANCO'S BROTHER SEEN ON ARRIVAL AT LONDON AIRPORT : With him is his son Nicolas. Senor Franco is the Spanish Ambassador to Lisbon, and is visiting England to take his son to Downside School, Bath.

A ROYAL HUNT : The Duke and Duchess of Gloucester were hosts recently to the Fitzwilliam Hunt, which met at their home, Barnwell Manor, in Northamptonshire. The Hunt has been in existence since before 1760 and the Mastership has always been held by Earls Fitzwilliam or members of their family. In the picture Prince William is seen with his mother, the Duchess.

RUSSIANS LOOK AT NEWMARKET'S BLOODSTOCK : Russian bloodstock buyers, the first to visit England since the war, inspect the famous stallion Hyperion at Lord Derby's stud in Newmarket. Hyperion won the Derby in 1933, and now, aged twenty-four, is probably the most famous and most successful stallion in the world. One of them said : "Everybody in Russia who knows anything about horses knows Hyperion. He is great." The party carried with them the British Stallion Register ; they said they had some wonderful horses in Russia, but from time to time they needed new blood.

CONTENTMENT in TRAVEL and RESIDENCE

SOME THOUGHTS ON SMILING CORNERS OF BRITAIN

By JOHN GORE

THE INFLUENCE OF GEOGRAPHY AND LITERATURE ON HUMAN HAPPINESS.—All my life I have been conscious of and deeply struck by the compelling influence on my own happiness of certain parts of England, Scotland and Wales.

I have never succeeded in finding any logical causes for this. Some men are very much influenced by weather conditions. Rain and wind unduly depress them. Their outlook on life is so different when the sun shines that they would be unwise to make important decisions in fair weather—at any rate, if they are afraid of optimism. Others, again, suffer from various phobias, consciously or unconsciously, and may find themselves uncomfortable on flat plains or under towering mountains. For my part, I confess to being both agoraphobe and claustrophobe, and I am as uncomfortable in the flats of Delft–Rotterdam or the passes of Drumochter as I am miserable in a crowd or a lift or a tube.

Here are logical causes for some of the influences of geography or climate on individual happiness. Unfortunately, the full list of my own smiling and frowning corners of Britain is not consistent with this logical explanation, and I must probe deeper. Year after year I drive up to Scotland by road, and during the long drive of 600 miles the barometer of my spirit rises and sinks.

I do not care for the Midlands scene, but I feel perfectly at ease through the Shires, and fall to acute depression when I turn into the Great North Road south of Doncaster and cross the plains of Yorkshire. Nor do I shake this gloom off until I reach the Border Country, whether by Longtown or Carter Fell. East route or west, the scenery, beautiful as it sometimes is, weighs on my spirits until I get into Scott's own country, to which I come like a schoolboy home for the holidays, utterly at peace and at ease. No one can feel very cheerful in Lanarkshire, and I prefer the Queensferry route north and manage very contentedly thence as far as Blair Athol.

Thence until Newton More opens the glens of Rothiemurchus, my depression is absolute. But at Kingussie I rise again to the summit of my ration of human contentment and there remain at least as far as Dingwall. Thence to ultimate Caithness I am as uncomfortable as can be. I put down most of these rises and falls of spirit to the geographical features I pass through, and charge them up to the phobias I confess to.

"Mihi Praeter Omnes Angulus Ridet."—There are several other causes to account for most people's devotion to certain corners of Britain or oversea countries. Childhood memories no doubt come first, literary associations follow; familiarity is a strong influence among the unambitious, conservative or stay-at-home types.

To take the last first. You often hear people say: "We always go to Drear-ness-on-Sea for our holidays." No doubt, these people are unambitious and "holiday with difficulty." They go to the same lodgings every year, are fond of the landlady and like her milk puddings; and, in any case, paterfamilias spends much of his time on the esplanade reading the *Financial Times* in a deck chair.

Childhood memories are a nobler cause. A place where you spent a happy childhood can never lose its charm for you. Your current contentment is strongly reinforced all day long with memories happily revived.

To this cause I attribute my undying devotion to Wimbledon Common. I was born there in an enchanting house with all the amenities of a Sussex manor house, and the happy days I spent there are vivid still. I detest the dreary journey into London by road, but always turn off the Kingston by-pass to enjoy a happy phase of the drive up and down skirting my birthplace and the Common.

The New Forest is another *angulus ridens* for me, and I put it first by far in my list. The balm which every acre of its varied scenery sheds on my spirit is constant, unchanging and extraordinary. I never lived there for any length of time. Only once in my life did my parents rent a house there for three or four weeks. I am pretty sure that the cause of this lifelong devotion to the New Forest must be put down to Marryat's children's classic, *The Children of the New Forest*. First read to me by my father in my early youth, I must have reread it twenty times during my life, and its charm and snugness, its cosy romance, its perfect presentment of a children's paradise, still in old age bring back the early delights.

That is the most authentic proof in my own experience of the influence of literature on locality.

To literature also I attribute my love of the Border Country. That country also is snug, wild and beautiful as parts of it are, and Lockhart's *Life of Scott* brings out its comfortable snugness between the dales and the northern mountains as vividly as it brings out its romantic features.

These instances lead me to judge that snugness is my cup of tea, and that I am nearer in spirit to the Drear-ness habitués than to the adventurers and pioneers and flying Dutchmen. I cannot deny it. I am an armchair adventurer. When I want the excitement of pioneering, I read the literature of the sea and the Arctic. Round my heart that *robur et aes triplex* was never built, and it is beyond my comprehension how men can brace themselves to endure fourteen days in an open boat in the Atlantic or weeks of plodding across uncharted icefields to a goal which is in no sense home and safety, but merely one-half of a desperate return journey.

As I read of their heroism and privations, the snugness of my fireside warms my heart. It is a far from heroic recourse to literature.

Happy Houses.—Many people must have experienced peculiar reactions to the atmosphere of country houses, a subject, at any rate, nearly related to that of the influence of geography. To account for such reactions is even more difficult in the case of the works of men's hands than of the works of Nature. For assuredly the history of the house is not usually the cause of its happy or unhappy influences.

For me, at any rate, a house with a tragic history may never have qualified for a ghost—a headless knight, a betrayed betrothed, a murdered child-wife. Sheer misery may brood over an old house or a modern which has no history.

Loseley, in Surrey, is an example of an eerie, melancholy great house which has in its history nothing to account for such an atmosphere. Holyrood, on the other hand, might well give one the creeps, but nothing in Edinburgh in my experience is for tears or gloom. Glamis, too; but I never felt evil influences or spookiness at Glamis, probably because I stayed there only when the castle was filled with young people in my own youth. And Cawdor, set in a place of peace and charm, has not about it the ghost of a ghost or any suggestion of spooks, not even in the tower room, with its suggestive but unhistorical murals of witches.

But I can think of one or two houses in Scotland, where I sometimes have stayed, houses with no tragic history, in which a sense of misery descends on me from entry to exit.

London has its black spots for me, for the most part bound up with railway travel.

All the approaches to London's termini are inexpressibly sordid and gloomy, with the possible exception of Marylebone and perhaps Paddington. The approach to Liverpool Street from Seven Kings is gloomy enough, but not to compare in sheer, stark ugliness with the Clapham Junction–Vauxhall section. Euston and King's Cross were for me gateways to happy Highland holidays, but the street approach to them from Central London took me through what, in my opinion, is the most ugly and tragic section of the city, the Bloomsbury area of boarding-houses. "Bloomsbury—what a pretty name! More of the bury than the bloom" (was that dialogue from *A Pair of Spectacles* or from *The Elder Miss Blossom*? I connect it with the voice of John Hare). Anyway, there is no doubt as to the cause of Bloomsbury's depressing influence. It is the thought of the lives of those lodgers in those melancholy hostels in which all the bloom has long since been buried. Even the Cromwell Road has nothing on Bloomsbury, though no doubt many of the industrial cities of North England could compete on more equal terms with Bloomsbury.

A PLEASANT SUMMER SCENE NORTH OF THE BORDER: A view of the river Tweed as it winds its way close to the Roxburghshire market town of Melrose. The town itself is situated at the foot of the Eildon Hills.

A Diminishing Heritage.—These arguments of mine convince me that Kipling allowed himself poetic licence when he wrote

"God gave all men all earth to love."

Even when all the earth was God's handiwork, man's heart was not large or brave enough to enjoy all the work of Nature. When Man came on the scene to improve on the works of Nature, an individual man's power of appreciation of the earth's face began to shrink and has grown continuously less and less. I remember the downs on which Peacehaven stands to-day and old Rottingdean. I remember Barton and Milford-on-Sea when cows came down to the gentle foreshore, and the New Forest lay open behind them. I remember the country round Hatfield when it wore the pleasant, unimaginative air of the illustrations to Caldecott's *John Gilpin*.

I remember the original form of a score of aerodromes, ribbon-developed trunk roads, bungalow towns, factory sites, junk dumps and rubbish tips, and I wonder how Kipling, writing even when he did, could have taken such licence. I am certain he would not do so to-day. For even in that virgin corner of England he loved so well, even in "such lands as lie 'twixt Rake and Rye, Blackdown and Beachy Head," the hand of man to-day lies heavy and hideous on the works of God and affords me grounds for some of my hates and shudders.

For my part, gentle or robust reader, I will hand you the mountains and the flat plains, and most of the cities built by men (excluding Oxford and a few cathedral cities), and will reserve for myself the valleys and the chalk streams and the downs and woods of Southern England, with some of the gentler features of Scotland and Wales (beyond Tweed and Brecon Beacons). And if this division of the plums depopulates my share, I will not complain.

OPEN COUNTRY IN THE NEW FOREST: Douglas fir and Scots pine predominate in this drawing made by Jack Merriott in the Highland Water area near Lyndhurst. The New Forest has been described as a "miraculous survival of pre-Norman England."

The Royal Tour in New Zealand

LAST DAYS IN NORTH ISLAND

Farewell to Wellington, then on to South Island

THE QUEEN LAYS THE FOUNDATION-STONE OF WELLINGTON'S NEW CATHEDRAL: She is watched by the Archbishop of New Zealand, the Most Rev. R. H. Owen, who later performed the ceremony of dedication. The stone will eventually form part of the base of one of the two towers of the new cathedral, which is being built to replace the present wooden structure. The ceremony took place on a site situated between old houses (destined for demolition) on rising ground adjacent to the Parliament buildings. Later in the same day the Queen presided over meetings of the Privy Council and of the Executive Council.

A DAY AT THE RACES: The Royal visitors in the Royal box at Trentham Racecourse, fifteen miles from the capital, when they attended the Wellington Royal Cup Meeting, held in the presence of about 30,000 people. The Queen and the Duke were accompanied by the Governor-General and by the president of the Course.

EARLY DAYS IN SOUTH ISLAND: *Left*—The arrival at Nelson, where the Queen and the Duke were given a rousing reception outside the unfinished cathedral, and, *on right*, the Royal progress through Greymouth. Nelson was given the dignity of a bishop's see and named a city by Warrant of Queen Victoria nearly a century ago, while Greymouth was the centre of the gold rush country in the '60's. The first part of the journey in South Island was made by plane along a route on the west coast, with the sea on the right and the grandeur of the Southern Alps on the left. The Queen is due to leave New Zealand to-day.

ON THE ROAD TO MONTE CARLO

Glimpses in Five Countries of Some of the Cars which Took Part in This Year's Rally

NINETY CARS READY TO START FROM GLASGOW: Competitors standing in the pouring rain in Blythswood Square, Glasgow, just before starting off on the first leg of the Monte Carlo Rally. Most British competitors in the Rally started from Glasgow. They made their way through England and Wales to Dover, mainly in wet weather. Of the ninety competitors who started from Glasgow, only three failed to reach Monte Carlo. Other starting-points for competitors were Athens, Lisbon, Palermo, Munich, Stockholm, Oslo and Monte Carlo itself. Altogether fewer than 50 of the 360 cars which entered failed to reach their destination. After arriving at Monte Carlo, the cars had to undergo a speed regularity test, over the winding roads of the Maritime Alps. The final winner of the Rally was L. Chiron (Lancia). The highest placed British car was the Jaguar driven by R. J. Adams and J. Titterington, which came sixth. T. C. Harrison (Ford) was thirteenth, and Stirling Moss (Sunbeam Talbot) fifteenth

CLEARING THE WAY FOR THE POLICE: Two motor cyclists of the Metropolitan Police escorting their colleagues at the West City, London, to hasten them on their way to Monte Carlo. Three policemen—Sergeants Skegg, Tear and Shillabeer—are competing as members of the Humber Super-Snipe team

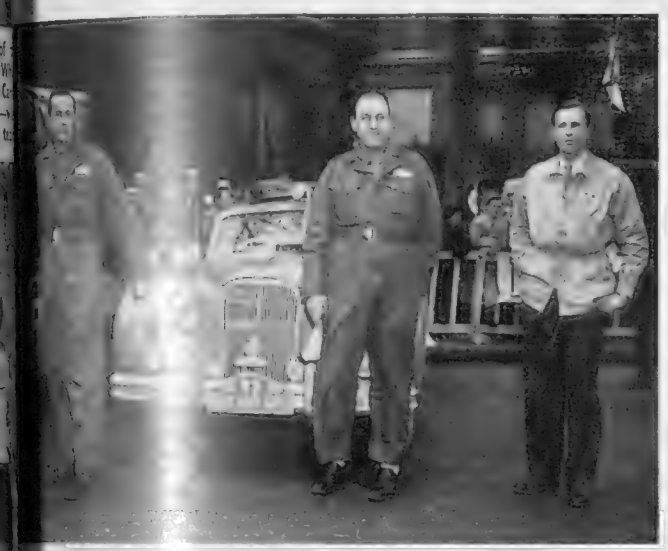
EARLY-MORNING CHECK ON THE SIDCUP BY-PASS: One of the competitors who had started from Glasgow, seen moving off from the checkpoint. He had come through the Lake District, Llandrindod Wells and London, and left Dover at dawn to cross the Channel to Boulogne.

THE DUCHESS OF NEWCASTLE PREPARES FOR THE RALLY: From left are the Duchess of Newcastle, Mrs. Lorna Doone Snow and Miss Reina Whittelle. They are loading-up the Duchess's Sunbeam Talbot at her home in Warminster, Wiltshire. Mrs. Snow is a well-known trials driver, and Miss Whittelle, who operates an air charter service, was the navigator

THE THREE-WHEELER WHICH CAME TO LOOK AT THE BIG BOYS: Lieut.-Colonel Michael Crosby, left, and his co-driver, Captain T. Mills, at Lympne Airport, Kent, before flying with the three-wheeler Bond Minicar to Le Touquet on their way to Monte Carlo. Because their tiny car has only three wheels, it was not regarded as an official entrant in the Rally, but its drivers were, nevertheless, determined to get it to Monte Carlo with the big vehicles along the Rally route. The Minicar has only a 2-h.p. engine, with a maximum speed of 50 m.p.h.

A FRENCHMAN FROM PALERMO ARRIVES IN ROME: Jean Marcelet, right, preparing to start on the second lap of the Monte Carlo Rally after being the first to arrive at the Rome checkpoint. Marcelet, who was driving a French-built Simca, was one of the twelve starters from Palermo who reached Rome safely. Because of the exceptionally good weather conditions and the comparatively good state of the roads, there were few penalties

NORWEGIANS ARRIVING IN BRUSSELS : Encountering nothing worse than rain, two cars which started from Oslo are seen arriving at the Rally checkpoint in the Boulevarde du Regent in Brussels.



THE BRIGADE OF GU DS WAS THERE TOO : Major Charles Lambton of the Coldstre Guards, left, and Major H. Bradley, Grenadier Guards, standing eside their Jaguar in Paris. With them is seen Lieutenant Visco t Boyne, Grenadier Guards. They were among the competitors who d set out from Glasgow on the 2,000-mile journey.

SOME COMPETITORS ALSO STARTED AT MONTE CARLO : An air of festivity surrounded those cars which actually started at the same place as they hoped to finish. Competitors who started at Monte Carlo enjoyed few advantages, however; they had to go right up to Amsterdam. Fittingly the Rally was won by Louis Chiron, of Monaco, who started from Monte Carlo. Driving a 2½-litre Lancia, Chiron won at his eleventh attempt. It was a popular victory.

HECKPOINT BENEATH THE ARC DE TRIOMPHE : Competitors having their papers checked in Paris on their way to Monte Carlo. The car on the extreme right was one of those that started from Monte Carlo, as seen in the picture *above, right*. Before a number of competitors from Glasgow had reached the Clermont-Ferrand checkpoint, they were misdirected near a village into a snow-covered field by local enthusiasts, who then demanded a stiff fee in English cigarettes to pull the stranded cars out again.

ABBREVIATIONS and the MOTORIST

The Motorist is Becoming More and More Bewildered by the Increasing Use of Abbreviations in Advertisements and Elsewhere

By "THE SPHERE" MOTORING CORRESPONDENT

LIFE is being made increasingly difficult for the poor old motorist by a bewildering variety of new initials and names which are being showered on him by the petrol companies.

He woke up the other morning to learn from his newspapers that he could now buy Shell treated with I.C.A. Similarly, he discovered that whenever he bought Esso Extra in future he would be getting the extra benefit of N.S.O.

Not to be left out of it, the enterprising Regent Company announced that they were marketing a new "T.T." premium fuel which has the added virtue of "Volatane Control."

Carefully reading the news reports and the advertisements, the P.O.M. managed to work out that I.C.A. means "Ignition Control Additive," and is a chemical intended to prevent pre-ignition and the fouling of sparking plugs; that N.S.O. means "Naphthenic Solvent Oil" which is claimed to have solvent properties with a powerful effect on gummy substances and other deleterious deposits; and that "Volatane Control" has been produced through the latest refining processes with particular relation to "the selection of the highest octane crude."

The P.O.M.—how catching is this habit of using initials!—probably needed the benefit of a different kind of spirit after trying to absorb all that. And sitting back in his chair, feeling slightly bemused, he probably started wondering if the petrol he had been using was previously ever as good as he had been persuaded it was. If not, why had the firm selling it suddenly discovered that it needed this sensational improvement?

The P.O.M. probably also began to have a feeling of real amazement that he had ever managed to coax his car engine to start at all using the inferior fuels with which he had had to content himself in the past.

If the thought of all those gummy substances and other deleterious deposits filled him with a sense of guilt, what must have been the effect of the reminder that he had been letting his engine run with sinister carbon deposits glowing red in his cylinders and burning the petrol gases before their time?

He probably went straight out and asked his garage man to fill up his tank with two gallons each of Shell Esso Extra and Regent T.T. to make sure of getting the benefit of I.C.A. and N.S.O.—not forgetting Volatane Control.

I was interested to learn of the latest British attempt to build a real "People's Car." Mr. Henry Brown, a Yorkshire engineer whose workshops are at Rodley, near Leeds, has built the prototype of a four-wheel, four-seater car which he has named the "Rodley," and which he plans to sell for "less than £300, including tax."

It has a coupé-de-ville body with a canvas section in the roof which can be rolled back in fine weather, and is powered by an air-cooled V-twin J.A.P. motor-cycle engine of 750 c.c. with chain drive and a friction differential.

The Rodley has independent coil springing at the front, a three-speed gear-box with change lever on the facia and full-size wheels. It is fitted with a reversing gear, an electric self-starter and a spare wheel which goes under the front "bonnet," where there is also room for luggage. Mr. Brown claims a top speed of over 50 m.p.h. and says his car cruises comfortably at 40 and does 65 miles to the gallon. He has already driven the prototype for 5,000 miles and has discovered no major snags.

He realises that large-scale production is essential if the price is to be kept down, and he has already decided to abandon the project unless he can sell the Rodley for less than £300. "There is a big market for such a car at such a price," he states, "but it would not sell if we went above that figure.

"I am confident that I can build up to a production of fifty a week inside twelve months, and that an output of that kind will make the Rodley a genuine £300 car." Good luck to you, Mr. Brown!

There are still motorists with the urge to go out in search of adventure—and I am not referring to the Monte Carlo Rally drivers. I have in mind the three men who are on their way to Alaska with a Sunbeam-Talbot Alpine sports car.

They intend to drive right from Fairbanks (starting on March 9) to Cape Horn, which they plan to reach on December 11 after motoring 24,370 miles down the west coast of North and South America.

Leader of this "expedition"—and it really does justify that description—is Mr. Brian Acworth, a twenty-five-year-old Londoner. His companions are Mr. Peter Abear, a twenty-eight-year-old Canadian medical student, and Mr. Martin Swithinbank, who is twenty-five and an advertising man.

They will motor through nineteen different countries, through extremes of hot and cold, through jungle and desert, across unbridged rivers and up over high mountain passes. They are towing an Eccles caravan which has been waterproofed so that it can be towed across rivers by the Alpine when the car has to be placed on the inflatable raft they are taking with them. The car will propel itself, the engine being linked to a small screw at the back of the raft.

THE BRUSSELS MOTOR SHOW—SHOW CARS OF MANY MAKES LINED UP OUTSIDE THE CENTURY PALACE AT BRUSSELS: *On right*—A car with plastic coachwork exhibited at the show. The model is a Chevrolet Corvette. In this, the thirty-seventh Brussels Motor Show, eight countries were represented, with Great Britain showing the most models and the United States coming second. Motoring in Belgium, as in other countries, is becoming more popular, and last year it was estimated that 79,000 vehicles were sold, compared with 76,300 in 1952.

Overdrive units are becoming more and more popular in Britain. The well-known Laycock de Normanville system has just been adopted by Mr. William Lyons for his Mark VII Jaguar saloon, on which it is an optional extra in both home and overseas markets.

It has the effect of giving the Jaguar's four-speed gear-box an extra top gear of high ratio, with the benefit of quieter running, less wear and improved fuel consumption. The overdrive unit is operated by a small switch on the facia, with a warning light incorporated. When the switch is on, the overdrive automatically comes into operation at a road speed of about 36 m.p.h.

If a driver prefers, he can switch on the overdrive as and when he chooses. Models fitted with overdrive are given a higher ratio final drive—4.55 to 1, compared with 4.27 to 1 on the standard transmission. Basic price of the overdrive model is £1,185—£45 more than the standard Mark VII.

It has also been announced by the Standard Company that their Vanguard saloon and Estate cars and the Triumph Renown saloon are now available with Laycock de Normanville overdrive operating on both second and top gears of these three-speed vehicles.

The Vanguard and Renown saloons have been available for some time with an overdrive operating on the top gear alone, and this has made a remarkable difference to their open-road performance and running cost. Provision of what is in effect a five-speed gear-box will confer even greater benefits.

Advantages of the overdrive include improved acceleration and a clutchless change for overtaking and hill-climbing. The device is operated by a finger-tip switch on the steering column which can be operated without taking the hands away from the wheel. The two-gear overdrive costs £56 13s. 4d. extra, including purchase tax.

Owners of cars fitted with a single-gear manually-operated overdrive (the steering column gear-change lever has an extra position) will soon be able to get their cars modified for two-gear overdrive.

The resignation of Sir John Black from the Standard Motor Company, of which he was both chairman and managing director, caused a great deal of surprise throughout the industry; and a great deal of sympathy has been evoked by the fact that Sir John's decision was due to the injuries he received in his recent accident.

The Company is fortunate in having a man of Mr. Alick Dick's ability to step into his old chief's shoes as managing director. His appointment ensures continuity of policy and vigorous enterprise at the top—for Mr. Dick has a first-class brain and the energy of a young man. Aged thirty-seven, he is the youngest of the "Big Six" bosses.

By a coincidence, Sir John Black's retirement was announced at the time when the new Swallow Doretti was being launched on the U.S. market. The Doretti is basically the 2-litre Triumph Sports—which, incidentally, has gone up in price to a basic figure of £595, plus £249 tax—with a special body "tailored" by the Swallow Coachbuilding Company, of Walsall, Staffs, for the American market.

It was in one of the Doretti prototypes that Sir John was driving when he had his accident. He had closely collaborated with the Swallow Company in the design of the Doretti, which is intended for the type of driver who is willing to sacrifice a little of the Triumph model's high performance for more luxury. But it is still a 100-m.p.h. car.

A MOTORIST IN SEARCH OF ADVENTURE: Mr. Brian Acworth is seen at Hyde Park Corner with the car and trailer in which he and two companions plan to travel from Alaska to the Magellan Straits. The trailer has been especially waterproofed so that it can be towed across rivers.

At least two firms in Britain are making exhaust brakes for heavy Diesel-engined coaches and trucks, and one wonders if one of these devices will be developed for cars when the use of compression-ignition engines in smaller vehicles becomes more popular, as it undoubtedly will.

The makers claim a number of advantages for the exhaust brake. Among them are increased safety, including freedom from skidding, and reduced wear on brake linings, drums and tyres. By operating a small lever on the steering column, depressing the foot brake or by some other means, the supply of fuel to the engine is cut off immediately, with simultaneous operation of a valve which, in effect, stops up the exhaust pipe at a point between the engine and the expansion chamber.

The effect of this is to turn the engine into a compressor. The engine is turned over by the motion of the road wheels, and as the exhaust pipe is stopped up, the braking effect is considerable. Exhaust brakes have been extensively used in mountainous countries of Europe, where their increased safety and economy have been proved over and over again.

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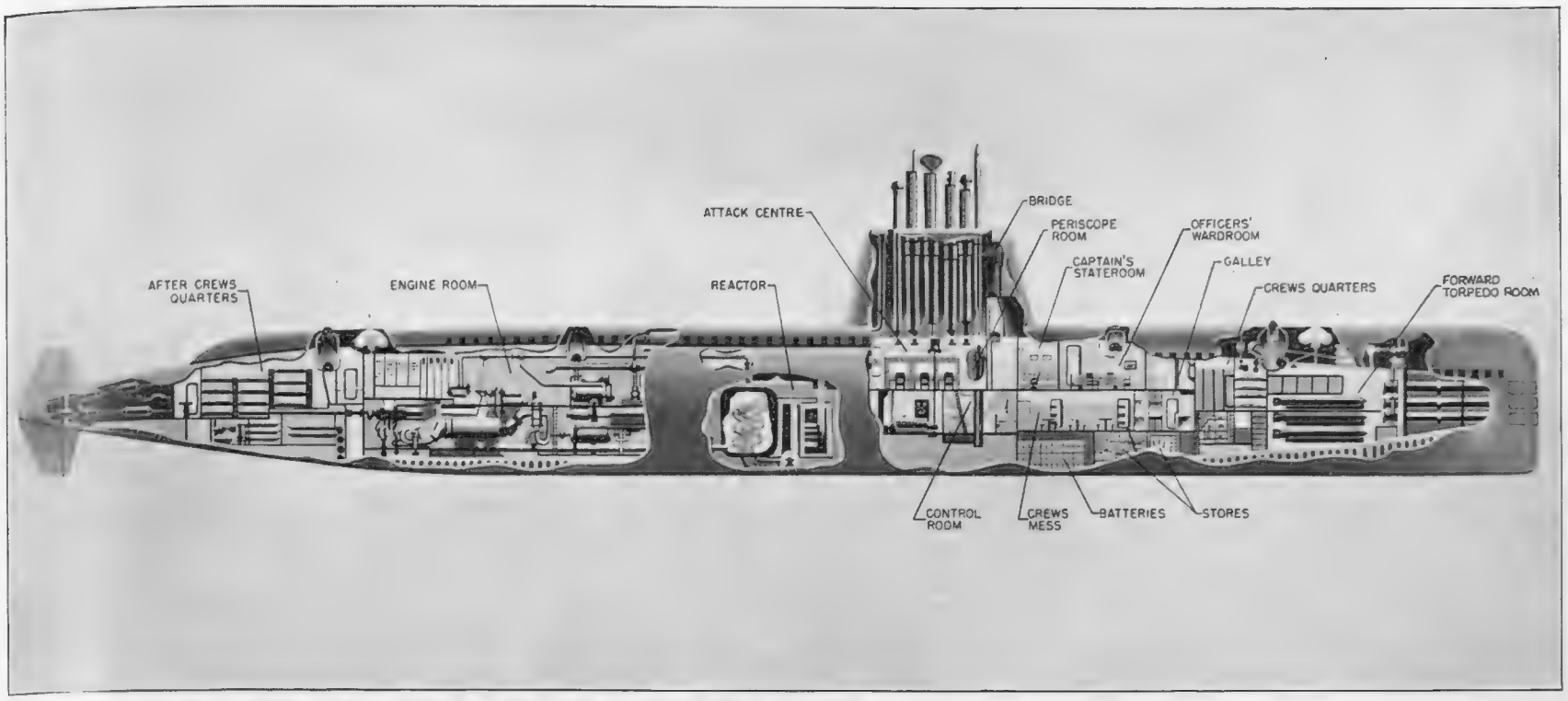
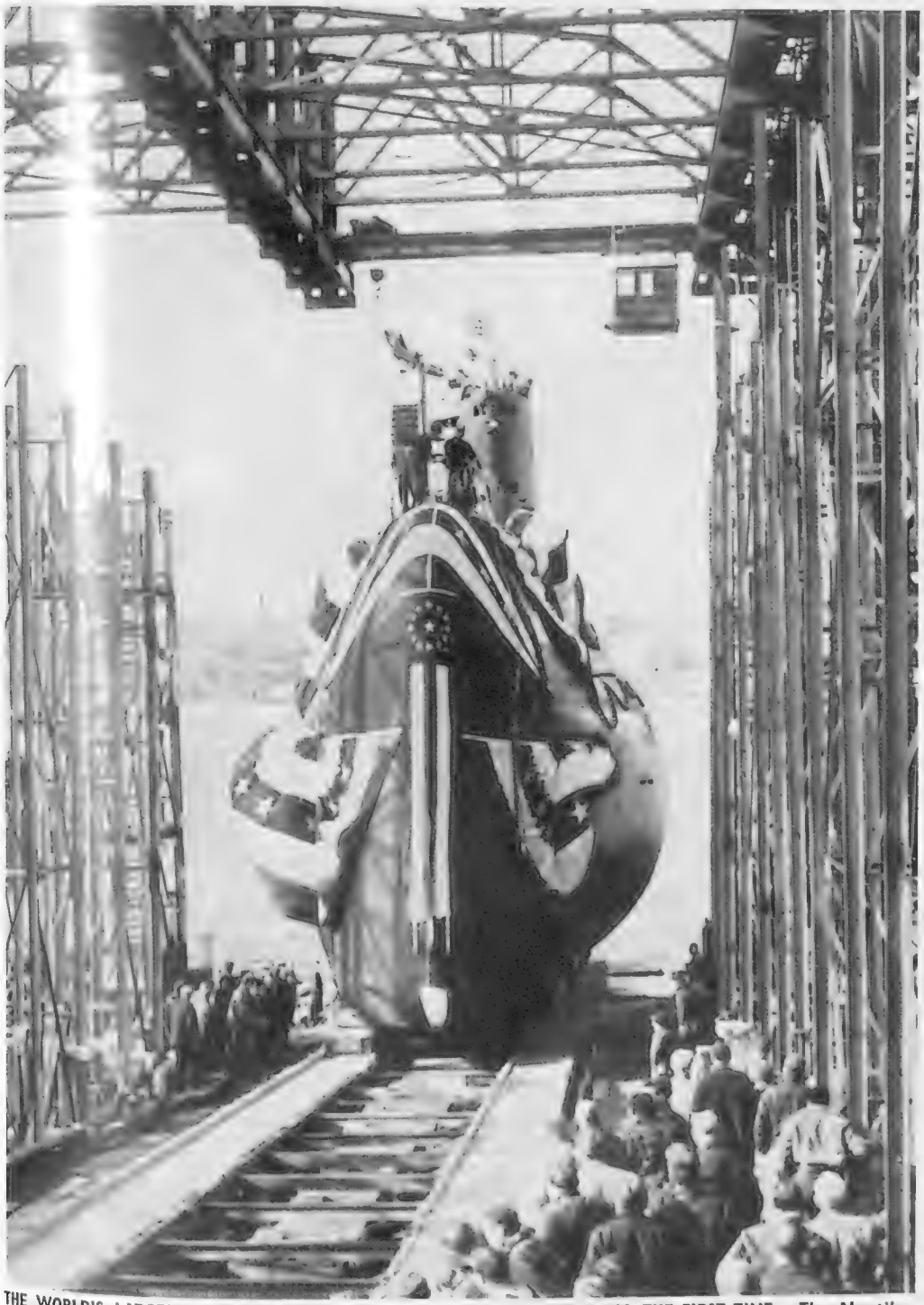


A CUT-AWAY DRAWING SHOWING THE LAYOUT OF THE UNITED STATES ATOMIC SUBMARINE "NAUTILUS," WHICH WAS LAUNCHED BY MRS. MAMIE EISENHOWER LAST WEEK: The launching took place at Groton, Connecticut, at the shipyard of the General Dynamics Corporation, on the River Thames. The submarine's nuclear reactor engine was too heavy to be installed before the launching, and at the moment it is locked away in a huge concrete blockhouse somewhere in the Idaho Desert. The *Nautilus*, the pride of the United States Navy, is the world's largest as well as the world's fastest submarine, and her atomic fuel capacity will take her once round the world without stopping. The fuel that will be used is uranium 235: this will create heat to fire the boilers of the steam turbine engine. Despite her many assets, the *Nautilus* has her drawbacks, and among these is her size, which reduces her manœuvrability, and she has much to fear from aircraft. About £13,000,000 was spent on construction, and she will be three times as expensive to run as a normal submarine.

THE LAUNCHING OF THE "NAUTILUS"

MRS. EISENHOWER LAUNCHES THE FIRST ATOMIC-POWERED SUBMARINE IN THE WORLD



THE WORLD'S LARGEST AND FASTEST SUBMARINE ENTERS THE WATER FOR THE FIRST TIME: The *Nautilus* is seen sliding into the River Thames, Connecticut. This submarine is capable of travelling for thousands of miles under water and the distance is limited only by the human endurance factor.

THE WIFE OF THE PRESIDENT NAMES THE SUBMARINE: Mrs. Eisenhower seen at the launching ceremony. On the left of this picture is Mr. John L. Hopkins, the President of the General Dynamics Corporation, and standing behind Mrs. Eisenhower is Commander Edward Beach, the Naval Aide to the President.

ANOTHER VIEW OF THE LAUNCHING OF THE "NAUTILUS": This picture shows the immense size of the atomic-powered submarine, which displaces more than 3,000 tons.

The World of Books—By VERNON FANE

ROYALTY IN THE VICTORIAN ERA

A Fascinating Story of European Royal Families of the Nineteenth Century Told by Meriel Buchanan; A Biography of Thomas Hardy and Other New Publications

IT is scarcely a surprise to even the most casual student of history that European Royal families are linked and interlinked by complicated ties of blood and of marriage, but in Queen Victoria's day, when there actually were more royalties, there also seem to have been more relations. And they were by no means distant and hazy figures to each other. On the contrary, they called each other by nicknames, they were Missy or Ducky or Sandra or Sunny or Bertie, and they corresponded voluminously, visited each other and, even the most Royal and Imperial of them, had squabbles and jealousies that were not always based on questions of state.

From this point of view, the intimate rather than the historical, Miss Meriel Buchanan's book, QUEEN VICTORIA'S RELATIONS (Cassell. 18s.), makes fascinating reading. The author is the daughter of Sir George Buchanan, who was British Ambassador at St. Petersburg in the First World War, and since she grew up in Courts there and throughout Europe it is hardly necessary to emphasise what her opportunities were for meeting these now fabulous creatures and coming to know some of them well. In these pages one reads of the tragic Grand Duchess, whose dull but united family life was to end with murder at Ekaterinaburg; of Queen Marie of Rumania and her pro-English struggles in a pro-German household; of Princess Alice of Greece, mother of the Duke of Edinburgh, and of "Bertie, still proclaiming his hatred of Prussia, hardly civil to his sister when he visited Berlin to be invested with the Grand Cross of the Order of the Black Eagle."

COLLABORATORS ON A NEW BIRD GUIDE: From left, Roger Peterson, P. A. D. Hollom and Guy Mountford, who have collaborated in the production of *The Field Guide to the Birds of Britain and Europe* (Collins. 25s.). This well-illustrated pocket guide has also been published in eight foreign countries. Mr. Peterson, the bird artist, who was responsible for a similar volume on North American birds, is the illustrator.

It is a world that has almost vanished in the sense that it once existed with such extraordinary wealth, pomp and autocracy, but here it is reproduced, in some of its facets, by a gentle and meticulous recorder.

I often feel a pang of nostalgic affection—and gratitude—for those Victorian memoirs and even novels which opened with the phrase "In the year 1840 (or eighteen-something) in the little village of Expliciton . . .", for that was a fine tradition of clarity, and now it often happens that even when biographers have an important subject on hand they will leave you happily to disentangle essential dates from a discourse on the progress of the railway or the revolutionary tendencies in Great Britain. I like, appreciate and have even been "magicked" by much of Thomas Hardy's writing, and, indeed, much of his poetry, but I still don't see why there shouldn't be a clear statement of his dates (at least as important as the dates of many kings) in a biography of the great man. However, having learned that the railway came to Dorchester in 1847-48, seven years after Hardy's birth, the reader of school-leaving age will be able to sort it out for himself and after that to enjoy a great deal of THOMAS HARDY (Hogarth Press. 25s.), by Miss Evelyn Hardy, a critical biography of a writer who has had no exact counterpart in English letters, but who was as gloriously English as the fields of his native Dorset.

Hardy, of course, should be acknowledged as one of the most prickly and difficult subjects for the more or less contemporary biographer. He was such a good writer and such a moving poet—and so self-contained—that it has always been difficult for the most Bryant-inspired fans to add or subtract much to or from his stature. The writer's work is his memorial and his only guarantee of fame. Even Miss Hardy's labour of love and research can't alter much of that.

A contemporary life, even one of mild adventure and considerable humour, has to be regarded after a moment's pause, perhaps simply because "they were giants in those days. . . ." Nevertheless, Mr. J. Malcolm Morris has something to say, and says it with the freshness and vigour of a man with a sense of humour. Mr. Morris was appointed to run the Imperial Hotel in Tokyo as a billet for Allied officers in 1945. When he was demobilised, a year later, he stayed on just to see the kind of things that would happen. And he saw them. THE WISE BAMBOO (Michael Joseph. 10s. 6d.) is the result, or, at least, one of them, since Captain Morris married on his tour of duty and semi-duty, and acquired not only a delightful blonde wife, but eventually, a delightful son.

A good deal of human experience is exactly what Miss Heather-Jenner got for herself when, in 1939, she started a marriage bureau in Bond Street and, having convinced her family and dearest friends (always those of least faith) that she was not running a questionable business, settled down to make her career in a difficult but often rewarding way. MARRIAGE IS MY BUSINESS (Kimber. 12s. 6d.) may not be the perfect title with its connotations of impossibly rich girls—or just impossible girls—but, in fact, it is an honest account by a very practical woman of a sound business venture.

"I suppose I am what is called a born matchmaker," writes Miss Jenner. "Ever since my fifth birthday, when I announced my engagement to two small boys at once, I have been marrying people off." And, to judge by her memoirs, a very good job she has made of it. The book is often very funny, sometimes horrifying, but never shocking, and it would be interesting to know why the publishers put that particular kind of drawing on its jacket

CHILDREN IN THE HOUSE (Hogarth Press. 12s. 6d.) has, towards its close, a phrase that has moved me very much, as might a sentence uttered by a child. Now, young Mrs. Nan Fairbrother is no child but the mother of two boys, and these are the lines that I mean: "For after a certain time, the end of youth perhaps . . . one will not be able to grow new roots. The relationships of middle age will be only urbane surface meetings, pleasant like autumn sunshine, but one will make nothing of them, wan and sapless. For to be moved is to be still young, and perhaps after youth we should make no final decisions."

Magnificently young and superbly silly, but as deeply felt as the rest of this enchanting book.

WHAT NOBODY TOLD THE FOREMAN (Spalding and Levy. 8s. 6d.) is a book about his profession, and his life in it, by Mr. Max Cohen, who is a woodworker and knows not only about carpentering and cabinet-making, but getting on with his colleagues. He is also described as a trade unionist, as if this were an odd distinction in this day and age, but I would describe him, just as accurately, as an observer of his fellow men, be they clock-watchers, Churchill or non-coms.

As for this week's novels, they have many points, among them the indefinable, invaluable one of being able to tell a story. First, Mrs. Elizabeth Janeway's LEAVING HOME (Michael Joseph. 12s. 6d.), which is a compactly planned but never skimped saga of a normally intelligent, normally rebellious family living in an eminently respectable part of Brooklyn, with a nice mother and an apparently vague but actually practical uncle. The book is divided into three parts, each dealing with a son or a daughter's career, but, in fact, all showing the growth away from the parental home to marriages of their own. This book is something more than a neat job, it is a story about very real young people showing them, for all the American idiom, to be as hopeful and gormless and, in the last event, honest as their elders in any period of history.

THE ANGRY ANGEL (Heinemann. 15s.) is another volume in the story of *The Dukays*, although it may be read with even more effect as a book on its own, and it is undoubtedly one of the most dramatic of Mr. Lajos Zilahy's works, as well as one of the most convincing. Few ordinary readers, myself naturally among them, know much of Hungary either before or after the two World Wars, but still we can know that this picture of the little country's political changes, and the body blows it has suffered, must ring true. This is an immensely effective novel, written on a sustained note of tension and violence, but, almost miraculously, finding time for a dry humour.

Mr. Louis Golding writes a fifth and final instalment in the adventures of his creation, Elsie Silver, with his novel TO THE QUAYSIDE (Hutchinson. 12s. 6d.), which, we are told, completes a million words on her subject. Readers may remember that her saga has been more or less continuous for the past twenty years, and that in that space of time Mr. Golding has covered her career from the young girl in the North Country in 1910, to the lamentable period when she was the mistress of a Nazi official, thus betraying both her race and her country, on to the renascence of her spirit when she survived the Warsaw ghetto, and later escaped with a little girl, to find herself alone on an Adriatic beach in Italy. From there the present story starts, with Elsie's hopes of beginning a new life in South America on the fortune her German had salted away, only to find that the child's reproaches and the call of Europe and, at the last, Palestine, are too strong even for a will that in most heroines of fiction would have become atrophied several volumes earlier.

Two detective stories recommended (and heartily) for this week are Mr. Edgar Box's DEATH IN THE FIFTH POSITION (Heinemann. 9s. 6d.), a murder story livelier than most, and as sharply characterised as the best, with its background of New York ballet and New York worldliness, and Mr. John Rhode's THE DOVERBURY MURDER (Geoffrey Bles. 10s. 6d.), magnificently and calmly English provincial middle class, and with as sound a construction as an oaken barque.

JUSTINIAN AND THEODORA

Byzantium's Famed Partnership

There have been only a few notable husband and wife partnerships upon the stage of history, where it could be said that the one could not have succeeded without the other, and where both enjoyed an equal prominence. The most recent example which leaps to mind, although its relative importance remains to be assessed, is that of Juan Peron and his actress wife Eva Duarte, who together bestrode Latin America in such spectacular fashion. Perhaps the first great example of a ruling partnership was provided by Justinian I, the Roman emperor who held sway in Constantinople in the sixth century A.D., aided and abetted by his strong-minded Empress, the former actress and courtesan Theodora. The story of the Slavonic youth and the Cypriot girl, who rose to the purple, provides a grand theme for a dual biography, and Harold Lamb, who has made the Near East his happy hunting-ground with books on Suleiman the Magnificent and others, makes the most of his opportunities in his latest volume, THEODORA AND THE EMPEROR (Robert Hale. 18s.). Justinian's character as soldier and law-giver is well defined. We see him as a man who knew how to pick his associates, generals like Belisarius and Narses, who rolled back the Persians and recovered the mastery of the African provinces. We see him as the unwearying student who codified the Roman law, which became the basis of all the European systems—except the English. But his efforts would have been of little avail without those of Theodora, who had courage and firmness, which, allied with the qualities of her husband, made them together the catalysts of a dynamic age

A book which is destined to enjoy a wide circulation, and very deservedly so, is Richard Lewinsohn's ANIMALS, MEN AND MYTHS (Victor Gollancz. 21s.). Lewinsohn, who is head of the Institute of Technical Research at Rio de Janeiro, traces through all the ages the interdependence of man and the animals. He tells us of man's long and often fateful struggle for supremacy over the animals, of the influence of the animal world upon trade and commerce, of the cleverness of animals, and, finally, shows the extent to which the animal kingdom has become subject to the whims, and to the will, of man. This is a scholarly and thought-provoking book, with illustrations that add both pith and point to the text, not least the twin pictures of a village street as seen through the eyes of a man and through the eyes of a fly.

The exploration of the ocean depths, its mountains and valleys and its great plains, is far from complete. In 1947-48 some grand work was done by the Swedish Deep Sea Expedition which set out from Göteborg in the 1,400-ton motor schooner *Albatross* on a cruise which lasted fifteen months and covered over 4,000 nautical miles. The *Albatross*, equipped for taking cores from the ocean bed by means of the Kullenberg piston core sampler, yielded valuable evidence regarding the geological history of the depths. In WESTWARD HO WITH THE ALBATROSS (Macmillan. 21s.), Professor Hans Petterson, son of Professor S. O. Petterson, founder of the International Council for the Exploration of the Sea, describes this memorable voyage, not excluding some of its less scientific moments on an atoll of the Gilbert Islands

There is nothing stereotyped about the series of Regional Books, and Lewis Wilshire's THE VALE OF BERKELEY (Robert Hale. 18s.) is one of the most individual so far published. The Vale, lying between Cotswold and Severn, below Gloucester and above Bristol, is a place of castles and manors, remote hamlets, and lonely woods and saltings, including the new grounds of the Severn Wildfowl Trust at Slimbridge. Mr. Wilshire has tramped the Vale in all weathers, and his researches have resulted in a friendly, animated and varied picture of this corner of England on the Marches of Wales.

Anthologies and selections have a particular value if they are culled from those major works which readers tend to avoid because of their bulk. SELECTED PROSE FROM EDWARD GIBBON (Falcon Press. 7s. 6d.) deserves a special welcome, and some of the extracts from the *Decline and Fall of the Roman Empire* make enthralling reading. Three additions to the series of Crown Classics are SELECTED POEMS OF THOMAS GRAY, SELECTED POEMS OF JOHN MILTON, and SELECTED POEMS OF EDMUND SPENSER. They are published by Grey Walls Press at 5s. apiece. Robin Ironside, in introducing a selection of POEMS BY CHRISTINA ROSSETTI (Grey Walls Press. 7s. 6d.), describes the strange and melancholy life of the poetess which provides the key to so much of her verse.

Hylton Thomas breaks important new ground with his illustrated volume THE DRAWINGS OF GIOVANNI BATTISTA PIRANESI (Faber and Faber 42s.). Piranesi's importance as an etcher was recognised even in his own day, but until the present century he has not had his due as a draughtsman. Mr. Thomas presents a well-balanced selection of the drawings in the various media Piranesi employed, extending from his youth to the end of his career.

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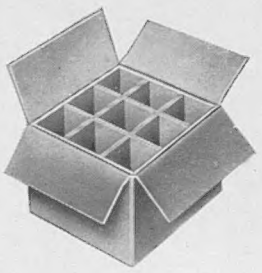

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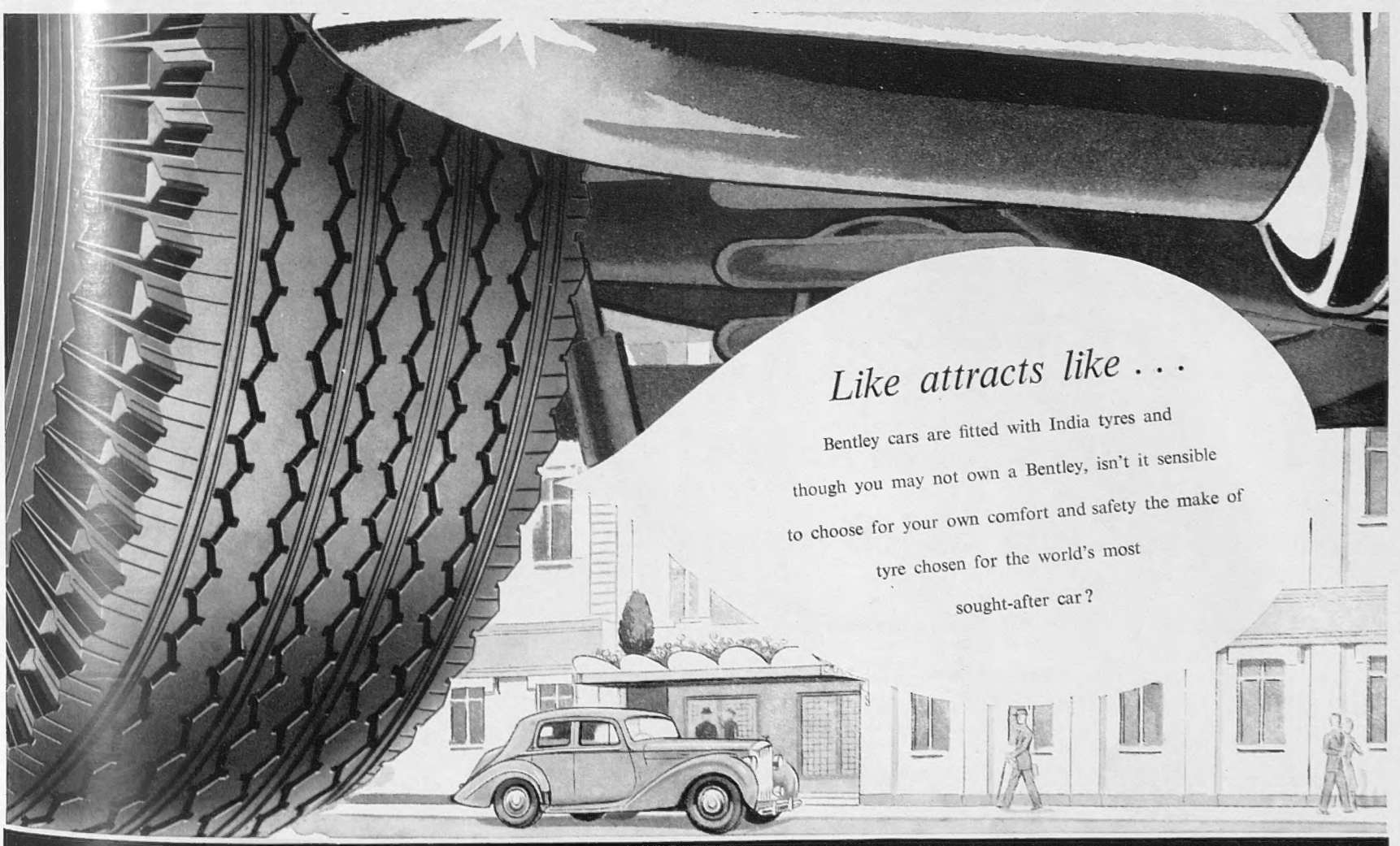

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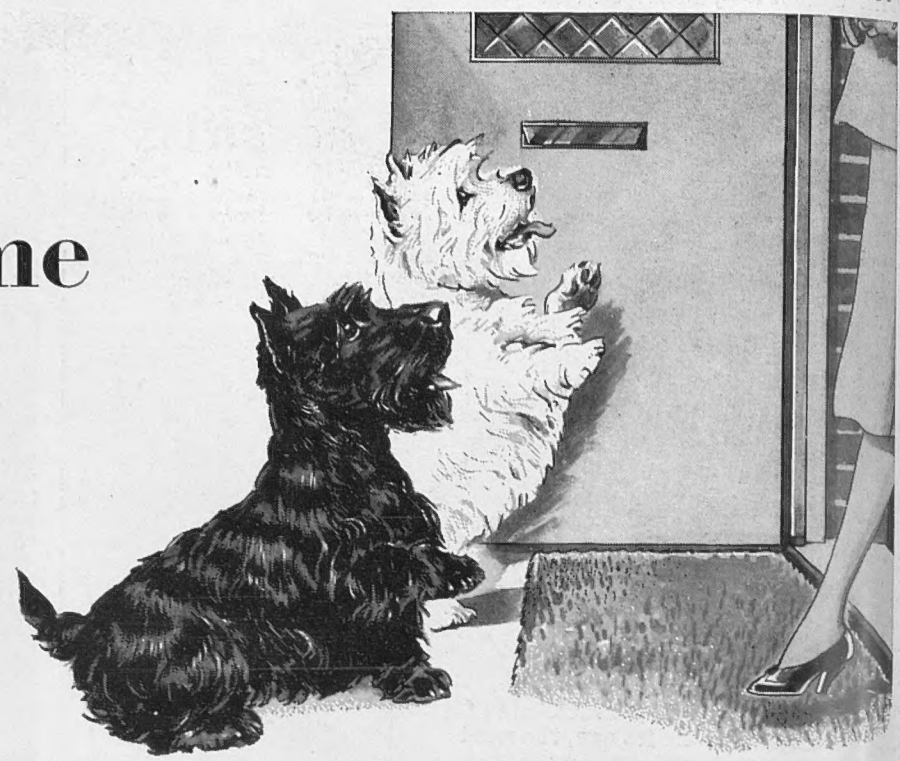

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IN QUEST OF GOOD HOTELS

ADVICE BY ASHLEY COURTENAY

Letters, accompanied by a stamped addressed envelope for reply, should be addressed to him, c/o The Editor, THE SPHERE, *Ingram House, 195-198, Strand, London, W.C.2.*

WITH the debunking of the Sussex Piltdown giant, I am a little diffident about reminding readers that the name of Kent appears in the first written document mentioning England lest some bright person proves that the Greek sailor who wrote it was just a double-Dutchman of more recent times! What I wish to emphasise is that the county of Kent is as rich in history as she is in scenery and offers us manifold opportunities for our interests and energies at all seasons.

To get beyond mere nodding acquaintance with any county one must have a plan. As I see it, there are three sections into which Kent can be divided—namely, her seaboard—100 miles of it—her Weald, embracing many of her hopfields and cherry orchards, and that part of Kent which has become a dormitory for Londoners.

The Kentish coastline, which extends from Sheerness to Rye, in Sussex, naturally reaches its peak of popularity during the holiday months, but there are resorts which have an all-season appeal. Walk along the Leas at Folkestone on any fine day of any month and you will be conscious of life in the flora and fauna. Without having to pay top prices, my choice for a first-class hotel is The Burlington. Ably managed and not too large to be impersonal on the one hand, or too small for congestion at peak periods on the other, in my opinion it strikes a happy medium in lay-out and size. For those who prefer to stay at an hotel set back from the sea front, I have recommended for a number of years The Princes, in Bouverie Road West. It has a theatre and post office next door, shops and places of worship within easy and almost level walking distance. A few miles to the west of Folkestone lies the former Cinque Port of Hythe, where the Hotel Imperial, standing on an island site, attracts a discerning clientele all the year round. Indeed, a number of business and professional people have taken self-contained suites there. With a sporting nine-hole golf-course, billiards room, ballroom and cocktail lounge, the Imperial is a rendezvous for many local functions. Under the same direction is Stade Court Hotel, also facing the sea, whose visitors may avail themselves of the amenities of the Imperial if they wish. The traveller who prefers the cosiness and company of an inn should make a note of The White Hart, situated in Hythe's narrow, old-world High Street.

The Thanet coast has a more rigid climate to contend with during the winter months, but for all that The Beresford Hotel at Birchington remains open and offers golf, bridge and dancing. At Kingsgate, between Westonville and Broadstairs, Fayreness Hotel also keeps open and attracts those who patronise the North Foreland Golf Club, parents with children at near-by schools and all whose medical advisers recommend bracing air as part of the cure.

For the Weald of Kent and for the Kentish country generally, Tunbridge Wells makes a first-rate centre. Here The Spa, with central heating to combat winter's cold, is a spacious, well-appointed hotel with plenty of scope for recreation and relaxation. Though quite a number of "regulars" travel to London daily from Tunbridge Wells, Sevenoaks is even more of a dormitory town, and those who seek a temporary base while house-hunting here should stay at Park Hill Hotel in Brittain's Lane. It stands away from the noise of traffic, about a mile from the station. The cooking is definitely good, and appropriately so, for the name of the owner's wife, who takes charge of the kitchen front, is Mrs. B. G. Cook!

It must not be overlooked that Kent has considerable attractions for the devotees of Dickens, and the best centre for such pilgrims is The Royal Clarendon at Gravesend, where the catering to-day would excite any "Mr. Pickwicks." And talking of pilgrims, brings me to Canterbury, with all its historic and architectural interests. On the site of the Medieval Sonne Inn, adjoining the Christchurch Gateway, you will find the early Tudor Cathedral Gate Hotel, where modern amenities happily combine with a quaint and old-world atmosphere. For those who may prefer to stay a few miles away, I can suggest Grove Ferry Hotel at Grove Ferry, situated on the banks of the Stour. Homely comfort and good food are the main factors which draw people from every walk of life to this "inn-with-a-farm-by-the-ferry."

One thought leads to another and this reminds me that Kent has a goodly quota of inns and smaller hotels at which brewers, public companies and tenants are co-operating to the public advantage.

Trust Houses have a Kentish family of some fourteen, the latest addition—a grown-up child—being The Castle at Tunbridge Wells. Others, conveniently sprinkled about the county, include. The George at Cranbrook and The Bell at the former Cinque Port of Sandwich.

No article on Kentish hotels and inns would be complete without reference to The Leicester Arms at historic Penshurst. It stands mellow and serene opposite the grounds of Penshurst Place, an oasis of restfulness, a temple of good food. A smaller hotel of great antiquity that has come to the fore of recent years is The Star and Eagle at Goudhurst, in the centre of hopland. Here, on one of the highest points in Kent, one can eat and sleep and feel that one is in the seventh heaven.

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